

IN THE UNITED STATES DISTRICT COURT FOR THE  
NORTHERN DISTRICT OF OKLAHOMA

RONICA TABOR,	)	
	)	
Plaintiff,	)	
	)	
-VS-	)	No. 09-CV-189-GKF-PJC
	)	
HILTI, INC.,	)	
	)	
Defendant.	)	

TRANSCRIPT OF TRIAL PROCEEDINGS

TESTIMONY OF MARK KILLINGSWORTH

BEFORE THE HONORABLE GREGORY K. FRIZZELL  
UNITED STATES DISTRICT JUDGE

JUNE 25, 2013

A P P E A R A N C E S

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**REPORTED BY:** **BRIAN P. NEIL, RMR-CRR**  
**United States Court Reporter**

*Brian P. Neil, RMR-CRR*  
*United States District Court*

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1 Tuesday, June 25, 2013

2 \* \* \* \* \*

3 MR. SMOLEN: Your Honor, we'd call Dr. Mark  
4 Killingsworth.

5 MARK KILLINGSWORTH,  
6 *after having been first duly sworn, says in reply to*  
7 *the questions propounded as follows, to-wit:*

8 THE COURT: Sir, if you would state your  
9 full name for the record, please.

10 THE WITNESS: Yes. Mark Robert  
11 Killingsworth.

12 THE COURT: Thank you. Mr. Smolen, you may  
13 inquire.

14 **DIRECT EXAMINATION**

15 **BY MR. SMOLEN:**

16 Q. Good morning, Dr. Killingsworth.

17 A. Morning.

18 Q. I'd like to cover some preliminary matters with  
19 you. Could you please briefly summarize your  
20 education background after high school?

21 A. Yes. I was undergraduate at the University of  
22 Michigan and I did graduate work getting a Ph.D at the  
23 University of Oxford.

24 THE COURT: Go Blue.

25 THE WITNESS: Yes.

1 Q. (BY MR. SMOLEN) Do you have an education and  
2 training in statistics?

3 A. Yes.

4 Q. What is the extent of the education and training  
5 that you have?

6 A. Well, I took several courses in undergraduate. I  
7 took a course and did a thesis as a graduate student  
8 that involved a lot of statistics, and I now teach a  
9 course in statistics called "applied  
10 microeconometrics," which I would define short and  
11 briefly as the application of statistics to questions  
12 in economics, especially microeconomics, economics of  
13 individual actors, firms, consumers, workers, that  
14 sort of thing.

15 Q. And I believe you'd indicated, but are you  
16 presently employed?

17 A. Yes.

18 Q. Okay. And tell the court in what capacity that  
19 you're employed.

20 A. Well, I'm a professor of economics at Rutgers  
21 University.

22 Q. Okay. You had indicated that you teach a course  
23 in microeconometrics --

24 A. Yes.

25 Q. -- correct?

1 A. Yes.

2 Q. Okay. Do you use that in your work as well?

3 A. Yes.

4 Q. Okay. And please tell the court how you use that  
5 in your work.

6 A. well, in a variety of ways. I guess just as an  
7 example, some years ago I was part of a team that was  
8 studying the effect of a so-called welfare cap on  
9 welfare recipients. Previously in New Jersey, if you  
10 were on welfare and you had another child -- this is  
11 AFDC welfare -- your welfare grant was increased. And  
12 as an experiment, some people were randomly chosen to  
13 continue on that, other people were randomly chosen to  
14 be subject to a cap on benefits. So even if they had  
15 another child while they were on welfare, their  
16 benefit would not be increased.

17 So we did several things. We did simple  
18 statistics to try and gauge whether the experimental  
19 group and the control group, so to speak, were  
20 different from one another, and we also did a large  
21 number of regressions; in fact, similar to the ones  
22 I've done here, so-called Cox semiparametric  
23 regressions.

24 Q. Okay. Have you authored any peer-reviewed  
25 publication's?

1 A. Well, yes. That was published in the Journal of  
2 Labor Economics a few years ago and it has both kinds  
3 of studies, the relatively simple ones and also the  
4 Cox semiparametric regressions.

5 Q. Have you written any peer-reviewed publications  
6 concerning discrimination in the labor market?

7 A. Yes.

8 Q. Prior to your engagement here, have you ever been  
9 asked to testify as an expert before?

10 A. Yes, I have.

11 THE COURT: Just curious. With regard to  
12 your AFDC study, did you take into consideration the  
13 jumping to Social Security once welfare limits were  
14 increased?

15 THE WITNESS: I think that in the era in  
16 which we were doing this that wasn't an issue.

17 THE COURT: It is now?

18 MR. YASSER: Yes. Well, these were all  
19 basically quite young women, and so Social Security in  
20 the sense of retirement was not a concern.

21 THE COURT: Well, of course, you've got  
22 other Social Security benefits as well.

23 THE WITNESS: Yes.

24 THE COURT: All right. Go ahead.

25 THE WITNESS: Oh, and we did -- there were

1 data on things like food stamps, and that certainly  
2 figured in what we were doing. Because, in fact, food  
3 stamps help offset some of the -- some of the cap.  
4 Because if you were on food stamps, your food stamp  
5 allowance would be increased even though the welfare  
6 grant was not.

7 THE COURT: Yeah. Totally irrelevant here,  
8 but the recent focus on once the welfare benefits  
9 started declining, social security disability started  
10 going up.

11 THE WITNESS: Oh, yes. Oh, yes, yes. The  
12 disparity component is getting bigger and bigger.

13 THE COURT: Mr. Smolen.

14 MR. SMOLEN: Thank you, Your Honor.

15 Q. (BY MR. SMOLEN) Have you ever been asked to  
16 testify before Congress?

17 A. Yes.

18 Q. Explain to the court when you've testified and  
19 what you testified about before Congress.

20 A. Well, I think there were a couple of occasions.  
21 One was on immigration legislation. This is at the  
22 time of not Simpson-Bowles, but the Alan Simpson the  
23 Wyoming senator, was the leader, I think, of the  
24 judiciary committee who wanted to change the welfare  
25 laws in the '80s -- pardon me -- immigration laws in

1 the '80s.

2 And then secondly, I testified on something  
3 called "pay equity" before the joint economic  
4 committee of the Congress.

5 Q. Okay. The plaintiff engaged you as an expert  
6 witness in this case; correct?

7 A. Yes.

8 Q. Did the plaintiff ask you to conduct any specific  
9 analysis?

10 A. No. I think my report said that the plaintiff or  
11 plaintiff's counsel asked me to study promotions from  
12 inside sales feeder jobs to outside sales but didn't  
13 request a specific type of analysis.

14 Q. Okay.

15 MR. SMOLEN: Your Honor, I need to get a  
16 copy of Mr. Killingsworth's report.

17 THE COURT: Yes.

18 MR. SMOLEN: Simon, could you pull  
19 Plaintiff's Exhibit 1 up, please?

20 THE COURT: Mr. Smolen, I might ask here  
21 before we get into this: Have you and Mr. Morgan  
22 stipulated to the relevant time period? I know that  
23 Mr. Killingsworth had done a revised analysis focusing  
24 on the period from October 18th, 2007, to December  
25 31st, 2008. Is there any sort of stipulation here as



1 to that?

2 MR. SMOLEN: We have not had a stipulation  
3 as to that. I'm happy to try to work that out, but I  
4 also know that I can briefly cover that with a few  
5 questions.

6 THE COURT: All right.

7 Q. (BY MR. SMOLEN) Dr. Killingsworth, there's also  
8 a plaintiff's exhibit book if it's easier for you to  
9 actually handle the report in a written format, and  
10 it's the first exhibit.

11 And specifically looking at the paragraph 3,  
12 does that indicate to you what the plaintiff asked you  
13 to do in this case?

14 A. Yes.

15 Q. And what was that?

16 A. Well, as it says there, to look -- basically, as  
17 I said before, to look at disparities in the rates of  
18 promotion by sex from so-called inside sales to  
19 so-called outside sales.

20 Q. Prior to this case, had you conducted any  
21 statistical analysis similar to the analysis you  
22 conducted in the case at bar?

23 A. Yes. Well, in fact, I mentioned the Journal of  
24 Labor Economics paper about the welfare cap or  
25 the -- and the statistical technique, although

1 obviously not the subject matter was just the same,  
2 Cox proportional hazards regression.

3 I guess as sort of a starting point, there are  
4 in this report, Exhibit 1, a number of simple  
5 descriptive statistics, and they're somewhat similar  
6 again in terms of the technique used to what appears  
7 in a portion of the Journal of Labor Economics paper.

8 Q. Okay. And I'm assuming that in the previous  
9 study you included the same methodology that you  
10 included in this case?

11 A. The same or very, very similar, yes.

12 Q. Okay. What type of data did you review in  
13 conducting your analysis in this case?

14 A. Well, here, primarily I looked at the so-called  
15 SAP data.

16 Q. Okay. Did you also look at the applicant flow?

17 A. I did.

18 Q. And did you also look at the company's SMD data?

19 A. Correct. I did, yeah.

20 Q. What is your understanding as to what the SAP  
21 data was?

22 A. Well, the SAP data are in three parts. There are  
23 little tabs that you can click on. One part was about  
24 earnings; another part was about qualifications, which  
25 was largely empty buckets, not a whole lot was filled

1 in; and then finally -- and I saw this on the screen  
2 with one of the previous witnesses -- the tab that I  
3 spent the most time with was about essentially  
4 employee -- employment histories at Hilti and it had  
5 other information we saw. It had job location, job  
6 title and so forth, and it gave the job title  
7 chronologically through time from the date of hire, or  
8 roughly speaking 2005 if somebody had been hired a  
9 long time before, up to roughly 2008 or thereabouts.

10 MR. SMOLEN: Simon, let's go ahead and pull  
11 up Exhibit 6, if you would, please, the database that  
12 Dr. Killingsworth is referring to. And, Simon, could  
13 you search the name Rocco Belmonte and then zoom that  
14 in for the court, please? Probably bring that back  
15 down to 100 or 150. I would just stick with 100.  
16 That way we don't have to --

17 Q. (BY MR. SMOLEN) Okay. There's an employee here  
18 by the name of Rocco Belmonte. And we're going to  
19 scroll from left to right, and I just want you, if you  
20 would, to clarify to the court what those columns are  
21 the information that we've got contained?

22 A. Right. Well, it gives his name; his ID number,  
23 which I guess is a company ID number; his gender;  
24 race; date of birth; marital status; I guess this is  
25 his home address; DOE, I believe his date of entry or

1 hire date; DOT is date of termination. Tenure is  
2 measured as of some point. That's just the difference  
3 between whatever the reference date is and the date of  
4 entry. The effective date refers to the date on which  
5 some event occurred. And the action type tells you  
6 what kind of event it was, was it a hire, was it a  
7 transfer, was it something else.

8 Q. Okay.

9 A. In this case, he went through hiring, a transfer,  
10 and organizational reassignment. And the  
11 organizational reassignments occurred at different  
12 dates, June 1st of 2007, you see that on the effective  
13 date column, and then another one on 1/1 of '08 and  
14 there are two entries for that.

15 Q. Okay. And it indicates that there was an  
16 organizational reassignment; correct?

17 A. Right.

18 Q. Which do you term that to be a -- go to the right  
19 a little bit. Keep going. And he goes from a  
20 wage-earner to a territory sales rep, AM II, in the  
21 field sales. Do you see that there on April 1st of  
22 2007?

23 A. I do, yeah.

24 Q. Okay. And did you consider that to be showing a  
25 promotion from an inside sales wage-earner position to

1 outside sales, AM II, in the field sales department?

2 A. Yes, I did.

3 MR. SMOLEN: Your Honor, when we were --  
4 just real quick, we were on a break, Mr. Morgan, he  
5 had agreed to take out the objections on the applicant  
6 flow log exhibits so that we didn't have to have  
7 Melissa Harris come authenticate them.

8 MR. MORGAN: That's fine.

9 MR. SMOLEN: Now there's no objection to  
10 that, so we would move to admit the exhibits.

11 Q. (BY MR. SMOLEN) And while we're looking for  
12 that, Dr. Killingsworth, it shows that he was a Hilti  
13 center rep; correct?

14 A. Correct.

15 Q. And then he promotes to an AM II position?

16 A. Correct.

17 Q. And that SAP data gives us the exact date that  
18 that takes place?

19 A. That's right. April 1st of 2007.

20 Q. Okay.

21 MR. SMOLEN: We'd move to admit Exhibit 69  
22 through 72.

23 THE COURT: For the record, any objection?

24 MR. MORGAN: Let me confirm that that's the  
25 correct numbers.

1 MR. MORGAN: 69 through 60 --

2 THE COURT: 69 through 72.

3 MR. MORGAN: That's fine.

4 MR. SMOLEN: No objection?

5 MR. MORGAN: No objection.

6 THE COURT: Very well. Plaintiff's Exhibit  
7 69 through 72 inclusive are admitted.

8 Q. (BY MR. SMOLEN) And, Dr. Killingsworth, I'd like  
9 to take you through the next step just briefly before  
10 we get back into the SAP data so the court can kind of  
11 see how you actually physically did this analysis.

12 Did you then look to see if Rocco Belmonte, for  
13 example, would have -- whether he appeared in the  
14 applicant flow data?

15 A. Yes.

16 Q. Okay.

17 MR. SMOLEN: And, Simon, if you could pull  
18 those exhibits up.

19 Q. (BY MR. SMOLEN) And show the court how you did  
20 that.

21 A. Actually before we leave the SAP data --

22 Q. We're going to get back into it.

23 A. Oh, sure. But for purposes of answering this  
24 question, I would just mention that, as we just saw,  
25 there's a name, and it was Rocco Belmonte, II or

1 something like that. Maybe -- yeah, Rocco J.  
2 Belmonte, II, and it also gave an ID number, 25990.

3 And in other contexts, I would hope, if I did an  
4 analysis of this kind, to be able to find exactly the  
5 same name and/or exactly the same ID number in some  
6 other data set because that makes it very easy to  
7 merge the two. Social security number would be  
8 another example. Employers don't like to hand those  
9 out, of course, so instead you typically get an ID  
10 number.

11 But unfortunately, one of the problems with the  
12 applicant flow logs is the spelling of names is not  
13 consistent from one source to another, and there's no  
14 ID in the applicant flow logs the way there is in the  
15 Hilti data.

16 Q. Okay.

17 A. So I don't remember offhand if Rocco J. Belmonte  
18 II appears in precisely that way, but we'll find out  
19 in just a minute, I guess.

20 Q. Okay.

21 A. But I couldn't go to that ID number for him  
22 because it's not there --

23 Q. Okay.

24 A. -- in the applicant flow log.

25 Q. You had to search by name?

1 A. Correct.

2 Q. Okay. And searching 2005's applicant flow log --

3 A. Well, I'd go to the home tab at the top and then  
4 over on the right you can find -- find and select.  
5 And by the way, is this the entire applicant flow logs  
6 for all four years?

7 Q. This is just '05.

8 A. Oh, okay.

9 Q. I'm just going to try to show the court how you  
10 did it.

11 MR. SMOLEN: And this is the only example  
12 we're going to use, Judge Frizzell. I just wanted to  
13 be clear how he searched the applicant flow log to  
14 show that he was in there.

15 A. Right. So I would start by typing in "Belmonte,"  
16 the last name.

17 Q. Yes.

18 A. The less selective you are the more likely you  
19 are to get a hit. If I typed in "Rocco J. Belmonte  
20 II," it might not have worked.

21 Q. Okay.

22 A. Then if we can click on "find all" in case there  
23 are variants of the name, well, no data.

24 Q. Okay. So that told you that he was not in the  
25 '05 applicant flow log?



1 A. Correct. And I wouldn't have expected him to be  
2 because he didn't have this promotion until 2007.

3 Q. Okay. So let's look at -- you would agree with  
4 me that he could have applied in '06 but been given  
5 the position in '07?

6 A. Well, we wouldn't know about it, at any rate,  
7 because there's nothing about him in the 2005 --

8 Q. We know he didn't apply in '05?

9 A. Well, we don't know that. We know he doesn't  
10 show up in the applicant flow data.

11 Q. Okay.

12 A. But that's different from saying we know he  
13 didn't apply.

14 Q. Okay. For one reason or the other, he was not in  
15 the applicant flow data --

16 A. Correct.

17 Q. -- in '05?

18 A. Correct. He does not appear.

19 Q. Let's look up '06 and '07. Or I could simply ask  
20 you, Dr. Killingsworth, to speed this up, did you  
21 check his name in '06 and '07 and '08's applicant flow  
22 log?

23 A. Yes.

24 Q. And did you ever find it?

25 A. No. He doesn't appear under any variant of his

1 spelling and certainly not with his ID because the  
2 applicant flow logs don't have ID.

3 Q. Okay. And let's look at -- then did you check to  
4 see -- for purposes of coming up with your rebuttal  
5 expert report, did you look to see if the company  
6 tracked any qualifications with the employee Rocco  
7 Belmonte who had clearly promoted from inside sales to  
8 outside sales in the relevant time frame?

9 A. Oh, I forget. I think the so-called PMP, which  
10 is in the SAP data, there's a space for that but I  
11 don't think it's populated in his case.

12 Q. Let's take a look.

13 MR. SMOLEN: Simon, if we could pull up the  
14 SMD data. And, Simon, instead of opening the files,  
15 just search -- like do a find and see -- because I  
16 know his name appears in one of the files, I just  
17 don't know which one it is. Give me one second:

18 Q. (BY MR. SMOLEN) So we find Mr. Belmonte II,  
19 Rocco?

20 A. Right.

21 Q. We find him in the Exhibit 79, the February '06  
22 customer service department SMD data; correct?

23 A. Right.

24 Q. And then did you look to see what qualification  
25 data had been maintained for Mr. Belmonte?

1 A. Yes.

2 Q. And can you show the court -- first, let's look  
3 at the columns on the top so we can see what  
4 categories we're dealing with.

5 A. I think I recognize the far one.

6 Q. There we go. There we go. We've got it on the  
7 screen now.

8 A. Yeah.

9 Q. And we can track Mr. Belmonte, we know that he's  
10 entered into the system; correct?

11 A. Yes.

12 Q. As of February '06; correct?

13 A. That's right. He's right there, yeah.

14 Q. There he is. And did you find that Mr. Belmonte  
15 had an assigned P code?

16 A. No. Well, at least it's not given there.

17 Q. Okay.

18 A. Now, that's blank. That's column I under last P  
19 code.

20 Q. Okay. And did you look to see if he had been  
21 assigned an M code?

22 A. No. That's blank too.

23 Q. Okay. And moving to the right, did Mr. Belmonte  
24 have any of his PMP data entered into the SMD file?

25 A. No, no. That's blank as well.

1 Q. And --

2 A. Wait. We lost him, or did we? Is that 265?  
3 Yeah.

4 Q. Right. And the last entry in PMP was from 2005  
5 where there's an M rating; correct?

6 A. Right. For meets expectations, I think.

7 Q. Right. We used Mr. Belmonte here in court for an  
8 example to illustrate to the court how you did your  
9 analysis.

10 Did you find that this was a consistent pattern  
11 in looking at the data when you identified those who  
12 promoted, did you consistently find that they were not  
13 in the applicant flow log?

14 A. Well, I would say that much more often than not  
15 they weren't available in the applicant flow data.

16 Q. Okay. And then in looking at the SMD data, was  
17 it consistent that you found that the majority of  
18 those promoted did not have SMD information that had  
19 been entered into that system?

20 A. I'm not sure I can quantify it as precisely as  
21 that, but I would say it's quite widespread, more than  
22 just a handful, more than just 10 percent, a lot.

23 THE COURT: Now, in terms of Mr. Belmonte  
24 here, given that this is a February 2006 SMD database,  
25 we wouldn't have PMP for 2006, 7, or 8; correct?

1 THE WITNESS: Right, right.

2 THE COURT: So it does have 2005 PMP?

3 THE WITNESS: That's right.

4 THE COURT: All right. Go ahead.

5 MR. SMOLEN: And, Your Honor, just for  
6 clarification, I can walk him through all the other  
7 SMD data that was provided, but this is the only SMD  
8 file that Mr. Belmonte appeared in. He did not appear  
9 in the '07 or the '08, but I can certainly go through  
10 that to show the court that he doesn't appear in that.

11 THE COURT: I don't know if that's  
12 necessary here. Mr. Morgan.

13 MR. MORGAN: He can put on his case however  
14 he tries it.

15 THE COURT: All right. Whatever you'd like  
16 to do.

17 MR. SMOLEN: Simon, could you show just for  
18 purposes to satisfy the court that Mr. Belmonte does  
19 not appear in the other SMD data which has already  
20 been preadmitted. I believe they're exhibits -- and  
21 they're Exhibits 74 through 78, Simon. And just, if  
22 you would, show the court that you're searching  
23 Belmonte.

24 MR. MORGAN: Your Honor, we'll stipulate  
25 that Mr. Belmonte doesn't appear in the customer

1 service SMD records. He wasn't a customer service  
2 employee.

3 MR. SMOLEN: Okay.

4 THE COURT: All right. Thank you, sir.

5 Q. (BY MR. SMOLEN) Dr. Killingsworth, did the SAP  
6 data contain information relevant to the analysis that  
7 we asked you to perform?

8 A. Oh, yeah. In several ways.

9 Q. Okay. And what information was that?

10 A. Well, first and perhaps foremost, it was a record  
11 of people's employment histories so I could go into  
12 those and see who was in -- who was initially in  
13 inside sales and then who was promoted to outside  
14 sales.

15 It also had gender, it had race, it had date of  
16 birth from which I could get age, it had date of hire  
17 from which I could get time at Hilti, so it had a  
18 variety of different things. Oh, and it also  
19 indicated the area people were working in at Hilti.

20 Q. Okay. I'd like you to look at Plaintiff's  
21 Exhibit 41, if you would, please.

22 A. Yes.

23 THE COURT: Before we do that, Mr. Morgan's  
24 statement here and stipulation does beg, I think, an  
25 interesting question and perhaps an important

1 question.

2 To the extent that you were reviewing the CS  
3 department SMD data in Exhibits 74, 75, 76, 77, 78,  
4 79, does that affect your conclusions? I had perhaps  
5 understood that the SMD data that you contend that you  
6 could not find these people in was the entire gamut of  
7 Hilti, and Mr. Morgan's pointing out that these  
8 databases are simply SMD data for customer service.

9 THE WITNESS: Oh, that's right. But then  
10 in that case, I have no SMD data for anybody else, if  
11 that's the case.

12 THE COURT: Yes.

13 THE WITNESS: I'd want to go back and  
14 check. I guess the basic point is, if you wanted to  
15 look at people's promotability, mobility, and so  
16 forth, you would want to do it for all the people who  
17 might potentially get into outside sales rather than  
18 just for one small group within it -- or I shouldn't  
19 say small -- rather than just one single group within  
20 the potential field.

21 THE COURT: All right. And since our  
22 feeder group is CS, then I take it you don't need to  
23 look beyond the CS SMD data?

24 THE WITNESS: Well, I would say that the  
25 feeders, as far as I have seen, include but aren't

1 limited to the CS group. And so therefore -- and yet,  
2 if it's the case that the SMD data are only available  
3 for the CS group, then you can't take account of that  
4 for anyone else. I'm not even sure that it's possible  
5 to take account of SMD information for all of the CS  
6 people, just for the people for whom that happens to  
7 have been filled in. Am I being clear?

8 THE COURT: Oh, I understand that.

9 THE WITNESS: In other words, the problem  
10 is not just that we may not have anything for people  
11 other than CS. The problem is also that for people  
12 who are in CS, we don't always have something.

13 MR. SMOLEN: I think I can clarify --

14 THE COURT: Just so I understand some of  
15 the complexities here, are you satisfied that at least  
16 the CS SMD data attempted to bring in Hilti service  
17 center people?

18 THE WITNESS: My understanding is that it  
19 was -- that was the frame of reference, but whether it  
20 included how widespread the information actually  
21 filled in was fell short of 100 percent.

22 MR. SMOLEN: Your Honor, I can help clarify  
23 this, I promise.

24 THE COURT: All right.

25 MR. SMOLEN: Exhibit 80, which was the base



1 2008 SMD completion, which is one of the files we just  
2 searched, that was the SMD data for the entire base  
3 market.

4 THE COURT: All right.

5 MR. SMOLEN: We searched everything that  
6 was given to us by Hilti, which the 2008, it's Exhibit  
7 80, it says base --

8 THE COURT: Why don't we get this from the  
9 witness rather than your testimony.

10 MR. SMOLEN: Okay.

11 THE COURT: Go ahead.

12 Q. (BY MR. SMOLEN) Dr. Killingsworth, you reviewed  
13 as part of your expert report both the customer  
14 service department SMD data -- correct? --

15 A. Right.

16 Q. -- as well as what we've marked as Exhibit 80,  
17 the base 2008 SMD completion data; correct?

18 A. Okay. I don't think I saw it exactly by that  
19 name, but yes.

20 Q. Okay. Going back to Exhibit 41, do you recognize  
21 that exhibit?

22 A. Yes.

23 Q. And what is Plaintiff's Exhibit 41?

24 A. Well, that's a tabulation of the account managers  
25 who I would call outside sales, AM II or above, as of

1 January 1st, 2008.

2 Q. Okay. And what specific data did you rely on in  
3 creating Plaintiff's Exhibit 41?

4 A. That was the SAP data. That gave me the  
5 opportunity to do a snapshot of account managers,  
6 AM IIs and above.

7 Q. Okay.

8 MR. SMOLEN: Your Honor, we'd move to admit  
9 Plaintiff's Exhibit 41.

10 THE COURT: Any objection?

11 MR. MORGAN: I'm sorry. 41?

12 MR. SMOLEN: Yes, sir.

13 MR. MORGAN: I think it's irrelevant, Your  
14 Honor, because it doesn't speak to just the customer  
15 service department, which is at issue in this case,  
16 it's only outside sales. This doesn't have anything  
17 to do with promotions. This just shows the population  
18 of who was in outside sales. This is *Joe's Crab Shack*  
19 No. 1 is the ruling precedent on that. This has  
20 nothing to do with our case.

21 THE COURT: Response?

22 MR. SMOLEN: Your Honor, it just  
23 establishes that the number of employees in inside  
24 sales and number of employees in outside sales and  
25 that's the foundation that we look at. Again, it

1 doesn't necessarily pertain to a statistical  
2 regression analysis, but it just establishes what the  
3 roles were on inside sales and outside sales in the  
4 relevant time frame.

5 MR. MORGAN: Your Honor, I don't see  
6 anything that distinguishes anything about inside  
7 sales in this entire exhibit. It's all account  
8 manager II, account manager III, account manager IV,  
9 V, territory representative. Those are all outside  
10 sales positions.

11 MR. SMOLEN: It shows the population in  
12 outside sales positions by gender for that time  
13 frame.

14 MR. MORGAN: That is not an issue in this  
15 case.

16 *(Discussion held off the record)*

17 THE COURT: Mr. Smolen, what I'm trying to  
18 get at here is, in Plaintiff's 41, we're looking at  
19 account managers who came from both inside sales and  
20 those who may have applied from outside; correct?

21 MR. SMOLEN: Correct, Your Honor. We're  
22 looking at the number -- just the number of account  
23 managers as of 2008, how many positions that the  
24 company had in account manager.

25 THE COURT: Okay. But for statistical

1 relevance here, because we are comparing the female  
2 versus male applicants from inside sales, okay, as  
3 it's been defined, don't we need to limit this outcome  
4 to those who applied from inside sales?

5 MR. SMOLEN: This table isn't about the  
6 progression from inside sales to outside sales. It's  
7 simply about how many account manager positions were  
8 there in 2008, not who was promoted or that they're  
9 external or internal.

10 THE COURT: I understand. But how is that  
11 relevant here to a disparate impact case where we're  
12 focusing on the disparity between male and female  
13 promotions from inside sales?

14 MR. SMOLEN: It just establishes that once  
15 they get into outside sales, the disparity increases.  
16 You've got --

17 THE COURT: But that's not what this case  
18 is all about.

19 MR. SMOLEN: We can move on past it.

20 THE COURT: The objection's sustained.

21 MR. SMOLEN: Okay.

22 THE COURT: Let me just make sure, I don't  
23 want to error here.

24 But you understand, sir, that as I understand  
25 it, we're trying to compare the disparate impact of

1 what the plaintiff contends to be the defendant's  
2 employment practices on promotions from inside sales,  
3 which include pro shops and Hilti service centers as  
4 well as customer service, to account manager  
5 positions. But as I understand it, we can't compare  
6 those people who applied from those three areas, in  
7 what we have loosely called inside sales, to the total  
8 globe -- the total number of account managers but only  
9 those account managers who applied from inside sales;  
10 correct?

11 THE WITNESS: Yes, absolutely. I think in  
12 my report, I just said this is background. That's  
13 all.

14 THE COURT: All right. Well, it seems to  
15 me to be irrelevant. Go ahead.

16 MR. SMOLEN: Okay.

17 Q. (BY MR. SMOLEN) Okay. Dr. Killingsworth, did  
18 you look at SAP data concerning promotions from inside  
19 sales positions to outside sales positions?

20 A. Yes.

21 Q. Okay. Did you analyze the SAP data?

22 A. Yes.

23 Q. How did you treat the inside sales positions for  
24 purposes of this analysis?

25 A. Well, I treated them as the feeder group, or as a

1 set of feeder groups, and asked who starts off as of  
2 either January 1st, 2005, or is hired into a so-called  
3 feeder group after that, how did they fair in terms of  
4 ultimately getting or not getting into outside sales.

5 Q. Okay. And why did you treat the inside sales  
6 positions as the feeder group?

7 A. Well, I guess two reasons. First of all, I had  
8 seen various documents that said that they were; and  
9 secondly, it was clear from the data that they were.

10 They're not the only feeder group. There are  
11 various other kinds of jobs, and occasionally you do  
12 see somebody promoted into outside sales from one of  
13 those other titles. But the bulk of the promotions  
14 from -- or into outside sales clearly come  
15 from -- wait a minute. I misspoke. The bulk of the  
16 promotions to outside sales clearly come from inside  
17 sales --

18 Q. Okay.

19 A. -- people in inside sales titles.

20 Q. And that was consistent with the documents that  
21 you reviewed that have been produced by Hilti, those  
22 written documents?

23 A. Yes.

24 Q. And when you looked at the data, that also lined  
25 up with that promotion process from inside sales to

1 outside sales as being the feeder group; correct?

2 A. Yes. Yeah.

3 Q. And the positions that you identified in your  
4 analysis as being inside sales positions, do you  
5 recall what those were?

6 A. well, there are a variety of them. Actually on  
7 the previous table, AM II through IV or V, or titles  
8 like territory rep with something else in it, were  
9 typical outside sales titles. And the name CS rep or  
10 pro shop rep or something similar to that were typical  
11 inside sales titles.

12 Q. Okay. If you would, look at Plaintiff's Exhibit  
13 42. Tell the court, if you would, Dr. Killingsworth,  
14 what Plaintiff's Exhibit 42 is.

15 A. Yes. well, this looks at people by seniority or  
16 by time with the company as of 2005, or as of the date  
17 of hire, whichever is later. It tabulates for people  
18 in each category, either hired before January 1st of  
19 2005 or hired in any of the subsequent years, what  
20 percentage of men, what percentage of women were  
21 promoted to outside sales. These are all people who  
22 started off in inside sales as of the indicated date.

23 Q. Okay. So Plaintiff's Exhibit 42 represents a  
24 subset of Hilti's SAP data that we just discussed?

25 A. Correct. well, just the SAP data in fact.

1 Q. Correct.

2 A. Yeah.

3 MR. SMOLEN: Your Honor, I move to admit  
4 Plaintiff's Exhibit 42.

5 THE COURT: Right. Just before -- is this  
6 something then that you created, Mr. Killingsworth?

7 THE WITNESS: The table is, yes.

8 THE COURT: All right. Any objection?

9 MR. MORGAN: Yes, Your Honor. This doesn't  
10 have any -- I mean, this is just raw numbers. It  
11 doesn't have anything to do with who sought a  
12 promotion. If it doesn't relate to those who were  
13 seeking promotion, then it's completely irrelevant.  
14 Who was interested in the job, I mean, just the raw  
15 numbers are meaningless. And it includes --

16 THE COURT: But as I understand,  
17 Mr. Morgan, this is Dr. Killingsworth's analysis of  
18 those who were actually promoted to outside sales from  
19 inside sales; correct?

20 MR. MORGAN: Well, as he defined inside  
21 sales. That's not how we define inside sales, and I  
22 think that's a rather large issue in this case.

23 THE COURT: Well, all right. For ease of  
24 use, let's say inside sales includes the customer  
25 service people, the Hilti reps, and the pro shop



1 people, all right?

2 So is that what this represents, Doctor?

3 THE WITNESS: Yes.

4 THE COURT: All right. So just for ease of  
5 use here, how is that not relevant to this lawsuit?

6 MR. MORGAN: Because it doesn't focus on  
7 those who actually applied or sought the position or  
8 indicated an interest in promoting in the future to  
9 the outside sales jobs.

10 THE COURT: But this represents the people  
11 who were actually promoted from how we define inside  
12 sales; correct?

13 MR. MORGAN: From how -- from what you just  
14 defined as inside sales, I would agree with that.

15 THE COURT: Yes. All right. Any response?

16 MR. SMOLEN: Just that these are the actual  
17 promotions that happened from inside sales to outside  
18 sales.

19 THE COURT: Seems to me that this is  
20 clearly part of the picture, it's relevant.  
21 Plaintiff's Exhibit 42 is admitted.

22 MR. SMOLEN: Thank you, Your Honor.

23 Q. (BY MR. SMOLEN) So, Dr. Killingsworth, I want  
24 you to explain to the court what Exhibit 42 shows with  
25 respect to promotions from inside sales to outside

1 sales, please.

2 A. Okay. Well, I first went into the SAP data and  
3 identified all the people who were present in inside  
4 sales titles as of -- well, in this first block of  
5 text, who were present as of January 1st, 2005, so  
6 they'd all been hired before that date. And there  
7 were 468 men in inside sales titles at that point and  
8 132 women in inside sales titles. As of that date,  
9 the men had a little bit more than three years of  
10 service at Hilti, the women had about 3.6 years of  
11 service at Hilti.

12 So then I looked forward into the data, starting  
13 in 2005, and asked, well, all right, of those 468 men,  
14 how many were subsequently promoted into outside  
15 sales? And the answer was 124 of them ultimately were  
16 promoted into outside sales. They were 26 percent  
17 of -- 26 and a half percent of those men then got a  
18 promotion. 124 is 26 and a half percent of 468.

19 And similarly for women I found a total of 132  
20 inside sales women as of 2005, the start of 2005, and  
21 22 of them eventually made it to outside sales. That  
22 was 16.7 percent of the total.

23 Q. Did you find that length of tenure in the entry  
24 level or the feeder position had anything to do with  
25 the promotion to outside sales?

1 A. well, strictly speaking, no, because I wasn't  
2 doing a statistical analysis that factored in years of  
3 service. But the women, for what it's worth, had  
4 somewhat more than a half a year of additional service  
5 beyond what the men had on average. Obviously, that's  
6 just an average. Some men had more than some women  
7 and vice versa, but the average was a little higher in  
8 terms of years of service for women than for men.

9 Q. Okay. Thank you, Dr. Killingsworth. I ask that  
10 you now look at Exhibit 43. Dr. Killingsworth, do you  
11 recognize Plaintiff's Exhibit 43?

12 A. I have it in my book but I don't see it on the  
13 screen.

14 Q. we'll get it pulled up.

15 A. Okay. So I don't recognize anything on the  
16 screen yet.

17 Q. I'm sorry. Do you recognize -- look in the book.  
18 Before we can show it on the screen, we need to admit  
19 it.

20 A. Oh, I see. I have the book.

21 THE COURT: well, all right. Since this is  
22 a trial to the court, go ahead and pop it up on the  
23 screen. It's not admitted yet.

24 MR. SMOLEN: Okay. Thank you, Your Honor.

25 Q. (BY MR. SMOLEN) Dr. Killingsworth, do you

1 recognize Plaintiff's Exhibit 43?

2 A. I do.

3 Q. What is Plaintiff's Exhibit 43?

4 A. Well, that's a summary of the promotion rates  
5 over the entire period, 2005 to 8. And so there were  
6 1401 distinct men, and of that number 256 were  
7 promoted. That was 18.3 percent of the total number  
8 of men present over that whole period.

9 Among women, there were a total of 294, of which  
10 34 women were promoted. That was 11.6 percent of the  
11 total number of women.

12 Now, for a statistician or an economist,  
13 somebody like me, the interesting question is not that  
14 18.3 percent of the men and 11.6 percent of the women,  
15 which is seemingly a big difference, were promoted,  
16 but rather you would want to ask, is that difference  
17 statistically significant? And so that's the purpose  
18 of the last two columns on table 3 --

19 Q. And I -- go ahead. I just want to make sure we  
20 clarify it for the court.

21 What you're saying is that you looked at the  
22 inside sales positions in the relevant time frame, and  
23 when you looked at that there were 1401 men in that  
24 position; correct?

25 A. In positions, yes.

1 Q. Positions. And that 256 of those men promoted to  
2 outside sales from those positions?

3 A. Correct. At some point between 2005 and 2008.

4 Q. And then similarly with respect to women, you  
5 looked at the total number of women in the inside  
6 sales positions, that being 294; correct?

7 A. Correct.

8 Q. And over the relevant time frame that you were  
9 studying, 34 of those women were ultimately promoted  
10 out?

11 A. Right.

12 Q. Okay.

13 A. And so 18.3 percent of the men in inside sales  
14 positions but 11.6 percent of the women in inside  
15 sales positions got promoted to outside sales.

16 MR. SMOLEN: Your Honor, I'd move to admit  
17 Plaintiff's Exhibit No. 43.

18 THE COURT: Any objection?

19 MR. MORGAN: Yes, Your Honor. Again, it  
20 includes people other than the customer service  
21 department and it doesn't show -- have any showing of  
22 interest of who wanted to promote, who applied for  
23 promotions, who expressed an interest through the SMD  
24 process in promoting.

25 THE COURT: All right. The objection's

1 overruled. Plaintiff's 43 is admitted.

2 Doctor, if you could here, because I am on that  
3 level of superficial analysis that you just described  
4 having studiously avoided statistics in college, and I  
5 superficially understand the importance of statistical  
6 significance, but can you tell me how you come to a  
7 number of standard errors calculation here?

8 THE WITNESS: Yes.

9 THE COURT: Go ahead.

10 THE WITNESS: Well, it's a numerator and a  
11 denominator. The numerator is the difference between  
12 the rates of promotion for men and for women, and  
13 that's 18.3 minus 11.6. So that's a disparity of  
14 what, 7.7 percentage points.

15 The denominator is calculated using statistical  
16 theory, but the basis of the statistical theory is  
17 what I like to call -- please forgive me because I'm  
18 not a lawyer but I find lots of people get this,  
19 especially nonlawyers -- the assumption is innocent  
20 until proven guilty, or more accurately, the  
21 assumption is the rates are the same until you can  
22 produce strong evidence of something else. In  
23 particular, the assumption is that the process that's  
24 generating these rates of promotion is sex neutral and  
25 that, therefore, any disparity would be caused purely

1 by chance.

2 Under that assumption, you can calculate the  
3 size of a single standard error. That's a little bit  
4 like the margin of error in an opinion poll, where,  
5 you know, you hear on TV all the time some candidate  
6 is ahead of somebody else or behind somebody else, but  
7 that result is within the poll's margin of error.  
8 Okay. That's almost exactly the same thing as a  
9 standard error.

10 Basically what they're saying is, the numbers  
11 involved in the poll are either, on the one hand, so  
12 small that the difference in the outcomes for the two  
13 candidates could easily just be the result of chance,  
14 or alternatively, the difference in support for the  
15 two candidates is so big that there's no reasonable  
16 way you could ascribe it to chance.

17 The threshold is usually that if a disparity --  
18 I think we said it was 7.6 percent?

19 THE COURT: I think it's 6.7.

20 THE WITNESS: 6.7 percent. If that  
21 disparity is within 1.96 standard errors in magnitude,  
22 then we would say that's within the margin of error,  
23 you could easily ascribe that to chance.

24 But on the other hand, if the disparity is  
25 greater than 1.96, that's the conventional cut-off,

1 that would then be called statistically significant,  
2 meaning unlikely to have occurred as a result of  
3 chance. In just the same way that if we say for an  
4 opinion poll being discussed on TV, if the difference  
5 between two candidates, or in support for this or that  
6 thing, is greater than the margin of error, then in  
7 that case if it's not within the margin of error, then  
8 that's statistically significant and unlikely to have  
9 occurred just as a fluke.

10 THE COURT: All right. Thank you. Go  
11 ahead.

12 Q. (BY MR. SMOLEN) The court covered this but I  
13 want to make sure we have it right.

14 There's a column on the far right with the  
15 heading "test of statistical significance." What is  
16 the test of statistical significance?

17 A. Well, that's measuring the disparity in terms of  
18 numbers of standard errors or standard error units.  
19 And this particular disparity, 6.7 percent, in  
20 promotion rates is equivalent of 2.777 standard  
21 errors. So that's well above the cut-off, the  
22 conventional cut-off, for something being  
23 statistically significant.

24 Q. Okay. Did you employ any particular methodology  
25 in conducting this test of statistical significance?



1 A. Yes. This is a so-called Chi-squared test.  
2 Other similar statistical tests would produce  
3 essentially the same result. This is quite a  
4 substantial difference.

5 Q. Is this methodology generally accepted in the  
6 field of economic statistics?

7 A. Yes.

8 Q. What did you find after conducting your test of  
9 statistical significance?

10 A. Well, one of the things that the test of  
11 significance does, and it's essentially another way of  
12 describing what it means for the disparity to be equal  
13 to 2.777 standard errors, is the so-called "prob  
14 value" or "chance probability" it's sometimes called.  
15 In this case, that's .006; that's the number on the  
16 far right.

17 What that tells you is that a random process, a  
18 sex-neutral process, would generate a disparity of  
19 this magnitude, 6.7 percentage points in promotion  
20 rates, about six times in a thousand.

21 Q. Okay. I'm going to have you look at paragraph 8  
22 of your report, which is Exhibit 1.

23 A. Okay.

24 Q. And I believe that's the paragraph that  
25 summarizes your findings with respect to table 3.

1 A. Yes.

2 Q. You indicate that the male promotion rate was  
3 almost 60 percent greater than the female promotion  
4 rate; is that correct?

5 A. That's right.

6 Q. And is that what your analysis determined?

7 A. Yes. Although the test of statistical  
8 significance looks at the disparity in relation to the  
9 size of the standard error, so that's a little bit  
10 different but they're all interconnected.

11 Q. You found a statistically significant disparity;  
12 correct?

13 A. Correct.

14 Q. And you also found that the promotion rate of men  
15 to women was 60 percent higher; correct?

16 A. Right. By the way, I should add, because  
17 sometimes it can get confusing, a statistical  
18 significance only means unlikely to have been  
19 generated by a neutral process. It doesn't mean big  
20 in the ordinary language sense.

21 Q. Okay.

22 A. I think I would say that this difference in  
23 promotions is big in the ordinary sense but it's also  
24 statistically significant. Sometimes a disparity can  
25 be small but be statistically significant. Sometimes

1 a disparity can be large but not statistically  
2 significant. So the two things aren't the same. But  
3 here, it's both large and statistically significant.  
4 Q. So how do you know that 2.777 standard errors in  
5 magnitude is statistically significant?

6 A. well, that's a conventional cut-off which dates  
7 from the early part of the last century.  
8 Statisticians who studied it have used that as a  
9 cut-off. But I think the intuition is that if  
10 something would occur from a neutral process less than  
11 5 percent of the time -- of course, here it would  
12 occur less than six times out of a thousand -- then it  
13 seems quite unlikely -- well, it is unlikely that a  
14 random process would generate a result like this; in  
15 fact, this tells you precisely how unlikely. And the  
16 chance is very unlikely.

17 Q. Okay.

18 THE COURT: Let me ask you as a  
19 statistician and refreshing me, not as a lawyer here,  
20 the defendant argues that you don't take into account  
21 the potential disparate percentages of interest in  
22 promotion to account manager by males versus females.

23 How do you view that in terms of your analysis?

24 THE WITNESS: well, this particular  
25 analysis, I would say, sets the stage, and, in fact,

1 it's quite similar to the analysis that Dr. Steward  
2 did. But this particular analysis doesn't take  
3 account of anything other than just sex. So in that  
4 sense, there's more to be done, and that's in fact why  
5 I do more. I'd argue that the later analyses simply  
6 reinforced the message here.

7 But I often find that when people ask about  
8 statistical results, you don't trot out a Cox  
9 proportional hazard regression first thing, you shove  
10 something much more straightforward. And I think  
11 that's good because it helps focus ideas and say,  
12 well, you know, what if you took account of this,  
13 that, and the other. So that's coming, believe me.

14 THE COURT: Mr. Smolen.

15 MR. SMOLEN: Thank you, Your Honor.

16 Q. (BY MR. SMOLEN) So essentially, if you would,  
17 Dr. Killingsworth, give us your opinions after -- just  
18 your initial opinions after the review of the SAP data  
19 between 2005 and 2008.

20 A. This is table 3 you mean?

21 Q. Yes.

22 A. Oh.

23 Q. It's in paragraph 9 of your report if you --

24 A. Oh, I'm sorry. Oh, well, it says the disparity  
25 was large. In the ordinary language sense, it is

1 statistically significant and adverse to women. They  
2 had a substantially lower rate of promotion from  
3 inside sales into outside sales, no question.

4 Q. And just generally, did you do this same analysis  
5 but limit it to October 18th, 2007, through December  
6 31st of 2008?

7 A. Yes.

8 Q. Okay. And what did you -- why did you do that;  
9 do you recall?

10 A. Well, I think you asked me. I think there was  
11 some question about the relevant period for legal  
12 purposes.

13 Q. Okay. And look, if you would, at your  
14 supplemental report, paragraphs 26 -- give me one  
15 second, Dr. Killingsworth.

16 *(Discussion held off the record)*

17 Q. *(BY MR. SMOLEN)* Dr. Killingsworth, let's look at  
18 Plaintiff's Exhibit 57. Are you there,  
19 Dr. Killingsworth?

20 A. I am.

21 Q. Do you recognize Plaintiff's Exhibit 57?

22 A. I do.

23 Q. What is Plaintiff's Exhibit 57?

24 A. Well, that is for just the period October 18th,  
25 2007, to the end of 2008, what I did in the previous

1 exhibit for all of 2005 to 8.

2 Q. So essentially you limited the time frame to a  
3 time frame in which the defendant had indicated they  
4 believed the relevant time frame to be?

5 A. well, I don't know what they said or didn't. But  
6 at any rate, this limits it to that time frame.

7 Q. Okay. And so limiting the promotion data to  
8 October 18th, 2007, through December 31st, 2008, what  
9 did you find?

10 A. well, again, the difference of the promotion rate  
11 for women -- or sorry -- the promotion rate for men is  
12 almost three times bigger, two and a half, two and  
13 three quarters times bigger. 6.2 is quite a lot  
14 larger than 2.6 percent. That's the equivalent of  
15 2.324 standard errors, again well above the  
16 conventional threshold of 1.96. And this would happen  
17 in a neutral process about two times out of a hundred,  
18 two percent of the time.

19 Q. Okay.

20 MR. SMOLEN: Your Honor, I'd move to admit  
21 Exhibit 57.

22 THE COURT: Any objection?

23 MR. MORGAN: Same objections as before,  
24 Your Honor, as to the definition of inside sales and  
25 lack of any bringing it home as to who wanted the job.

1 THE COURT: Understand. The objection's  
2 overruled. Plaintiff's 57 is admitted.

3 Q. (BY MR. SMOLEN) Dr. Killingsworth, are you  
4 familiar with the term Cox semiparametric regression  
5 analysis?

6 A. Yes.

7 Q. What is Cox semiparametric regression analysis?

8 A. It's a form of regression analysis, and  
9 regression analysis is a statistical technique for  
10 considering how an outcome might be related to a  
11 number of factors.

12 Q. Is Cox semiparametric regression analysis a  
13 widely accepted methodology in the field of economic  
14 statistics?

15 A. Yes.

16 Q. Did you conduct any such regression analysis as  
17 part of your work in the case?

18 A. I did.

19 Q. Prior to this case, had you ever conducted a Cox  
20 semiparametric regression analysis in a similar  
21 manner?

22 A. Yes. I've done the same sort of analysis on a  
23 number of occasions in cases like this one. I think I  
24 mentioned the publication in the Journal of Labor  
25 Economics about the family cap experiment in New

1 Jersey; again, the same thing.

2 Q. Did you consider any particular factors or  
3 variables in conducting your regression analysis in  
4 this case?

5 A. Yes.

6 Q. What factors or variables did you consider?

7 A. If we can go to the exhibit, that would help.

8 Q. Let's look at Plaintiff's Exhibit 44.

9 A. Okay. Well, I considered what economists call  
10 models, several different models. Basically, that's  
11 just a shorthand name for several different sets of  
12 variables that may be related to the result.

13 In the family cap case, the deep-ended variable,  
14 the outcome I was looking at, was do you have a child.  
15 There were various factors that might affect that, the  
16 age of the mother as of the start of the experiment  
17 and how many children she already had and whether she  
18 was subject to the cap on benefits, etcetera,  
19 etcetera.

20 Here, the deep-ended variable or outcome is, do  
21 you get promoted to outside sales. The people being  
22 considered here were all inside sales as of the time  
23 of the data being measured.

24 The first model just had an indicator for female  
25 sex. So this is a fancier version of the sort of



1 things that we saw before because those tables look  
2 just at sex. That's model one. So there's one  
3 independent variable that is being considered as  
4 something that might be related to the outcome of  
5 promotion.

6 Model 2 takes account not only of female sex,  
7 but also age and indicators for area at Hilti,  
8 customer service or the others.

9 Model 3 includes an indicator for minority as  
10 well as the indicators that are in model 2, the  
11 variables.

12 And finally No. 4, the model 4, has more  
13 variables that are being considered as potentially  
14 related to the outcome of promotion to outside sales;  
15 namely, female sex, age, area at Hilti, whether you're  
16 a minority, what were your years of service as of  
17 January 1, 2005, if you were an incumbent, or what  
18 year were you hired if you were hired during or after  
19 2005. So there, model 4 obviously is the one with the  
20 most factors, but it's built up from models 1, 2, and  
21 3.

22 Q. How did you choose the variables?

23 A. Well, they were -- a crucial consideration was  
24 they were available in the data. You can't include  
25 something if it's not in the data.

1 Q. And did you have all of these variables in the  
2 data that you looked at?

3 A. Yes. With a couple of little tiny technical  
4 asterisks.

5 We saw, for instance, in the SAP data that they  
6 provide an indicator for date of birth. So I  
7 calculated age as of either January 1st, 2005, or as  
8 of the date of hire as the case may be. And  
9 similarly, year of hire or years of seniority, they  
10 had -- the data had date of entry so I just used that  
11 to compute year of hire --

12 Q. Okay.

13 A. -- or years of seniority.

14 Q. And explain to the court, if you would, how were  
15 these variables incorporated into the regression  
16 analysis?

17 A. Well, they are treated as so-called independent  
18 variables, factors that may be related to the outcome.  
19 And in this case, of course, the outcome is, do you  
20 get promoted?

21 I think my report has a graph because I find  
22 that using sort of a simple graph -- graphical  
23 example, a picture here is worth a thousand words. I  
24 think it's an appendix to this first report.

25 Q. I believe it's the next exhibit.

1 A. Oh, okay.

2 Q. Before we get there, what were your results of  
3 your regression analysis?

4 A. Well, the results are in the next table, I think,  
5 table 5 --

6 Q. Let's look at that.

7 A. -- Exhibit 45.

8 Q. Exhibit 45?

9 MR. SMOLEN: Your Honor, I can't remember  
10 if we moved to admit Exhibit 44 or not; but if we  
11 haven't, I move to admit that.

12 THE COURT: Any objection?

13 MR. MORGAN: Yes, Your Honor. I don't  
14 think it bears on this case at all because it omits  
15 the numerous things that should have been considered  
16 such as mobility. I think we're spinning our wheels  
17 here because he is not analyzing anything that's  
18 relevant to this case.

19 THE COURT: And response?

20 MR. SMOLEN: My response. Your Honor, my  
21 response is Dr. Killingsworth took all the data and he  
22 was looking at any potential variable that could  
23 affect the outcome of the promotion rate. Maybe this  
24 was a result of race, maybe it was a result of age,  
25 maybe it was a result of area in the company, maybe it

1 was a result of tenure. He ruled all those out and  
2 that's essentially what we're doing here. That's what  
3 he's required to do.

4 And I'm going to get to the M rating and the P  
5 rating. That's the last step in the rebuttal. We're  
6 going to get there.

7 THE COURT: Well, once again, I think  
8 that's a bit of an overstatement, any potential  
9 variable. He's already said these variables were  
10 selected because they were available variables.

11 MR. SMOLEN: Right.

12 THE COURT: The question remains as to  
13 whether or not some of these variables may stand as  
14 suitable substitutes for things like desire to be  
15 promoted, such as age, which may take into  
16 consideration certain other factors.

17 With those considerations in mind, Plaintiff's  
18 44 is admitted. Go ahead.

19 Q. (BY MR. SMOLEN) Dr. Killingsworth, would you  
20 please look at Plaintiff's Exhibit 45?

21 A. Yes.

22 MR. SMOLEN: One second, Your Honor. I'm  
23 just trying to --

24 THE COURT: Yes, sir.

25 Q. (BY MR. SMOLEN) Dr. Killingsworth, you had

1 mentioned a graph. would you look at Plaintiff's  
2 Exhibit 48?

3 A. Yes.

4 Q. Is this the graph that you were referring to?

5 A. Yes.

6 Q. Okay. And explain to us what the graph shows  
7 again.

8 A. Okay. Well, I want to emphasize this is made-up  
9 data, hypothetical data, purely for purposes of  
10 illustration. So this is not about Hilti, it's not  
11 about any company. It's just me doing what I would do  
12 in the classroom using -- using hypothetical data just  
13 to clarify the concept involved because I think that's  
14 what's crucial here.

15 So the triangles refer to men and the squares  
16 refer to women. The triangles are a little darker.  
17 When I did this in color, they were blue for boys, and  
18 the squares that are a little lighter in color are  
19 pink for girls on this figure 1.

20 This may seem like a little bit like what you  
21 see on Sunday morning after a hard party Friday  
22 night -- or Saturday night, but when you look at it  
23 more carefully you see a pattern. The pattern is that  
24 the triangles for men generally lie above the squares  
25 for women and then you notice that the vertical axis

1 is labeled percent promoted. This is being plotted  
2 against just one factor; namely, years of service, and  
3 so you get basically two things from this in a very  
4 loose nonquantitative way.

5 The first thing that you see is that in some  
6 general average sense, the longer you've been with the  
7 company, the higher the promotion rate. People who  
8 have just signed on or who have very little experience  
9 at the company have lower promotion rates in general.  
10 There are obvious exceptions. This is not a rigid,  
11 one-for-one sort of relationship, but the nature of  
12 the relationship is clearly positive, upward sloping,  
13 we would say.

14 And the other thing is that most of the male  
15 triangles lie above most of the female squares. So  
16 that suggests -- and, again, I want to emphasize this  
17 is hypothetical data, just purely for illustration,  
18 nobody should draw any conclusions about anything,  
19 least of all Hilti, from this, just for illustration  
20 sake -- the relationship is also that on average, at  
21 any given level of years of service, men are more  
22 likely to be promoted than women.

23 Q. Okay. Let's look at Plaintiff's Exhibit 45.

24 A. Actually would it be possible -- there's one more  
25 graph, I think, which is --

1 Q. We can look at, yeah, 49 if you'd like,  
2 Dr. Killingsworth.

3 A. Yeah. Because I think that makes it much clearer  
4 what's going on in a regression.

5 MR. SMOLEN: Your Honor, we'd move to admit  
6 Plaintiff's Exhibit 48.

7 MR. MORGAN: Objection, Your Honor. He  
8 said that was completely made-up data.

9 THE COURT: The objection is sustained.  
10 And I do understand to some extent regression  
11 analysis. So --

12 MR. SMOLEN: Okay.

13 THE COURT: -- we'll not admit these  
14 hypothetical figures. Let's go ahead and move on to  
15 45.

16 Q. (BY MR. SMOLEN) Okay. Dr. Killingsworth, do you  
17 recognize Plaintiff's Exhibit 45?

18 A. Yes.

19 Q. On the left side, there's a column with the  
20 heading "model." Do you see that?

21 A. Yes.

22 Q. What does the model column represent?

23 A. Well, that's just a shorthand way of referring to  
24 the variables that are included in each of the models  
25 that were described, I think, in the previous exhibit,

1 Exhibit 44.

2 So model 1, for instance, was the  
3 regression that just included a variable for female  
4 sex. And model 2 was the regression that included  
5 variables for female sex, age, and area at Hilti and  
6 so forth.

7 Q. Okay. To the right, there's a column with the  
8 heading "coefficient for female-male promotion  
9 difference." Do you see that?

10 A. Yes.

11 Q. What is the coefficient for female-male promotion  
12 difference?

13 A. Well, that's a measure of the difference in rates  
14 of promotion for men and women. And roughly speaking,  
15 it's in percentage terms. It's a little bit more  
16 complicated than that, but that's the simplest way I  
17 can describe it.

18 Another way to think of it is to say that's the  
19 measure of extent, if any, to which the cloud of  
20 actual data points for women lies below the cloud of  
21 actual data points for men in terms of that figure  
22 we were just discussing. And they're all negative,  
23 which tells you that, in fact, the female rates of  
24 promotion, holding constant all of the variables that  
25 are included in each regression model, is below that



1 of men.

2 Q. Okay.

3 A. That's the number on top. There are sort of two  
4 sets of numbers, one has a minus sign in front of it  
5 and the other's in parentheses.

6 So let me take model 4 because I think that's  
7 the one that has the most explanatory variables. So  
8 what that says is, first of all, the coefficient on  
9 top minus 0.556 tells us that female rates of  
10 promotion are substantially less, in the ordinary  
11 sense of the word, about 50 percent less, than those  
12 of male candidates who are the same in terms of all  
13 the variables that are included in model 4.

14 MR. MORGAN: Objection, Your Honor.

15 A. So that's, therefore, very different.

16 THE COURT: I'm sorry. Yes. Go ahead.

17 MR. MORGAN: Move to strike the answer. He  
18 said "male candidates." This does not purport to  
19 relate to candidates for promotion, this is general  
20 population. It doesn't have anything to do with  
21 candidates. I move to strike his answer.

22 THE COURT: All right. Obviously he'll be  
23 subject to cross-examination. The objection's  
24 overruled. Go ahead.

25 MR. SMOLEN: Thank you, Your Honor.

1 Q. (BY MR. SMOLEN) Dr. Killingsworth, did you  
2 arrive at any opinions as a result of these regression  
3 analyses?

4 A. Yes. Well, the other thing that appears in  
5 parentheses in each of the four cases, that's again a  
6 measure of the number of standard errors.

7 Q. Okay.

8 A. And the number of standard errors is always well  
9 above 1.96. So I think I summarized it in the report,  
10 but I'd summarize it just right now by saying that  
11 women are substantially, in the ordinary language  
12 sense, and also statistically significantly less  
13 likely to be promoted than are men who are the same in  
14 terms of the factors that are considered in each of  
15 these models. And in the case of model 4, for  
16 example, that means factors such as area at Hilti,  
17 years of service at Hilti, age, and so forth.

18 Q. And did you do this same analysis for the time  
19 frame of October 18th of --

20 MR. SMOLEN: I need to move to admit 45,  
21 Your Honor.

22 THE COURT: Any objection?

23 MR. MORGAN: Same objections as usual, Your  
24 Honor. Not related to customer service, doesn't  
25 attempt to analyze who's interested in the job, it

1 doesn't attempt to analyze mobility factors, or any of  
2 the other factors that should have been analyzed.

3 THE COURT: The objection's overruled.  
4 Plaintiff's 45 is admitted. Go ahead.

5 MR. SMOLEN: Thank you, Your Honor.

6 Q. (BY MR. SMOLEN) Dr. Killingsworth, just looking  
7 real quick at Plaintiff's Exhibit 58 --

8 A. Yes.

9 Q. -- do you recognize that document?

10 A. I do.

11 Q. Okay. And is this essentially the same as 45,  
12 just limited to the time frame of October 18, 2007,  
13 through December 31st of 2008?

14 A. Yes.

15 Q. Okay. And what did you find there?

16 A. Well, essentially the same as the results in the  
17 previous exhibit that was 45. Again, there are quite  
18 substantial differences in rates of promotion, they  
19 are adverse to women, they are sizable in the ordinary  
20 sense. With the exception of model 3, which is close  
21 but not quite at the threshold for statistical  
22 significance, the other three, including the one with  
23 all the variables, model 4, all of the results, except  
24 No. 3, are statistically significant at conventional  
25 test levels at the 1.96 threshold for numbers of

1 standard errors.

2 Q. Okay.

3 MR. SMOLEN: Your Honor, we'd move to admit  
4 Plaintiff's Exhibit 58.

5 MR. MORGAN: Same objections, Your Honor.

6 THE COURT: The objection's overruled.  
7 Plaintiff's 58 is admitted.

8 MR. SMOLEN: Thank you, Your Honor.

9 Q. (BY MR. SMOLEN) Now, if you would, I'd like you  
10 to look at Plaintiff's Exhibit 46.

11 MR. SMOLEN: Your Honor, can I approach  
12 real quick just to ask a question just to speed it up?

13 THE COURT: Yes, sir. If you could  
14 approach one of the microphones here because this is a  
15 big courtroom and unfortunately you have to stick  
16 relatively close to the mic. Go ahead.

17 MR. SMOLEN: We had Dr. Killingsworth run a  
18 regression analysis excluding the pro shop sales  
19 positions, and that's what this part of the report is  
20 about. As long as the court's made a finding that the  
21 pro shop sales consultant was, in fact, a feeder  
22 position --

23 THE COURT: Oh, I have not made any sort of  
24 finding in that regard at all. That's what this is  
25 all about, for you to --

1 MR. SMOLEN: Okay.

2 THE COURT: I'm just trying to understand  
3 what the --

4 MR. SMOLEN: We'll go through it.

5 THE COURT: -- feeder group is. There's  
6 been no finding.

7 MR. SMOLEN: Okay.

8 THE COURT: That has yet to come.

9 MR. SMOLEN: Sure. Okay.

10 Q. (BY MR. SMOLEN) Let's look at Exhibit 46 then,  
11 Dr. Killingsworth. Do you recognize Exhibit 46?

12 A. I do.

13 Q. Okay. What is Exhibit 46?

14 A. Well, 46 is analogous really in every way, except  
15 one, to the analysis in Exhibit 43. It does just the  
16 same thing. The only difference is that from this  
17 analysis, the one in Exhibit 46, Hilti pro shop  
18 personnel are omitted.

19 Q. Okay. So this analysis just includes Hilti  
20 center reps and customer service reps; is that  
21 correct?

22 A. That's right. I think that's right, yes.

23 Q. Okay.

24 A. Anyway, the remaining inside salespeople who are  
25 left after you delete the pro shop people.

1 Q. Okay. And what did you find when you did that  
2 analysis?

3 A. Well, the disparity in promotion rates for men is  
4 roughly double that of women, 23.4 versus 11.4.  
5 That's certainly statistically significant. The  
6 number of standard errors is 3.6. That would occur by  
7 chance -- a disparity, at least as large as that,  
8 would occur by chance about three times in -- I think  
9 it's ten thousand.

10 Q. Okay. And you've found that obviously to be  
11 statistically significant; correct?

12 A. Statistically significant. And I would say also  
13 large in the ordinary sense.

14 Q. Okay.

15 MR. SMOLEN: Your Honor, I'd move to admit  
16 Plaintiff's Exhibit 46.

17 MR. MORGAN: Same objections, Your Honor.

18 THE COURT: Plaintiff's 46 is admitted.

19 Q. (BY MR. SMOLEN) Let's look at Plaintiff's  
20 Exhibit 47. Do you recognize Plaintiff's Exhibit  
21 47?

22 A. I do.

23 Q. And what is Plaintiff's Exhibit 47?

24 A. Well, that's another analysis, a Cox  
25 semiparametric regression analyses, or set of them,

1 with pro shop personnel omitted. Otherwise, it's  
2 exactly the same, the models are the same, the people  
3 with that one exception are the same, and so forth.

4 Q. When you say "the same," the same as Exhibit  
5 45?

6 A. Yeah, that's right. It's like Exhibit 45 but  
7 with the pro shop people removed.

8 Q. Okay. And what were the results of the  
9 regression analysis after omitting the pro shop  
10 personnel?

11 A. Well, basically the same as before. Omitting the  
12 pro shop personnel, what you get in Exhibit 47, does  
13 not change very much really at all the substantive  
14 results in Exhibit 45. All of the coefficients are  
15 negative, meaning the promotion rate difference is  
16 adverse to women. They're all sizable in the ordinary  
17 language sense. And they're all clearly statistically  
18 significant and well above the 1.96 standard error  
19 threshold.

20 MR. SMOLEN: Your Honor, we'd move to admit  
21 Plaintiff's Exhibit 47.

22 MR. MORGAN: Same objections, Your Honor.

23 THE COURT: Plaintiff's 47 is admitted.

24 Q. (BY MR. SMOLEN) Dr. Killingsworth, did you  
25 prepare an expert report in this matter?

1 A. I did.

2 Q. Did you also prepare a rebuttal expert report in  
3 this matter?

4 A. I did.

5 Q. What was the purpose of your rebuttal report?

6 A. Well, I think first and foremost, to respond to  
7 the expert for the defendants, Dr. Steward.

8 Q. Did you understand that Hilti had a global  
9 develop and coach process?

10 A. Yes.

11 Q. And what was your understanding of that process?

12 A. I'm going to get the acronyms mixed up, I'm  
13 afraid, or the alphabet soup. That included  
14 basically -- well, I think it's -- it included  
15 coaching, it included feedback, and it included  
16 evaluations. People would seek to be part of the  
17 process, and their behavior, their understanding of  
18 the business, their selling, various other things  
19 would be evaluated.

20 Q. Okay. I'm going to have you look at what's  
21 previously been admitted into the record as  
22 Plaintiff's Exhibit 20. You'll find it in the book.

23 A. Oh, yes.

24 Q. Is this what you understood -- we're looking at  
25 your analysis -- what you understood the GDCP process



1 to be?

2 A. Yes. In fact, that's what I read.

3 Q. Okay. Are you familiar with what Hilti refers to  
4 as "applicant flow data"?

5 A. Yes.

6 Q. what is Hilti's applicant flow data?

7 A. It records some -- I use that word  
8 advisedly -- it records some people who expressed an  
9 interest in -- well, at least the applicant flow data  
10 I looked at records the interest of some people in  
11 obtaining an outside sales position.

12 Q. And for what years did you look at applicant flow  
13 data?

14 A. 2008 -- sorry -- 2005 through 8.

15 Q. And did you conduct an analysis of this applicant  
16 flow data?

17 A. It would be a little too pretentious to call it  
18 an analysis. I looked very carefully, but I didn't do  
19 a statistical analysis in the sense of the kinds of  
20 analyses I was doing before.

21 Q. what did you -- what were you looking at when you  
22 looked at the applicant flow data?

23 A. well, in the first instance, I just wanted to  
24 find out what was there and what wasn't, who was in  
25 and who wasn't, and what did the data tell me about

1 people who were seeking positions, what happened to  
2 them, that sort of thing.

3 Q. And what did that tell you?

4 A. Well, first, it told me about some number of  
5 people who sought positions, both from outside Hilti  
6 and within Hilti. By "positions," I mean outside  
7 sales positions.

8 I also felt the longer I looked at these data  
9 that there were very large numbers of people who I  
10 knew had gotten promotions -- I knew that from the SAP  
11 data -- but they didn't appear at all in the applicant  
12 flow data which surprised me a little.

13 And I also noticed that the data -- the  
14 applicant flow data were not well kept in the sense  
15 that there were lots of gaps, the same event was  
16 characterized differently and inconsistently from one  
17 person to another, the same sort of status was  
18 sometimes characterized in a way that didn't resemble  
19 the way the same event was characterized for someone  
20 else, that kind of thing.

21 Q. Okay. Did you also look at the SMD data?

22 A. Yes.

23 Q. And what did you understand the SMD data to be?

24 A. The -- I think that's shorthand for either --  
25 I've heard it both ways -- sales management

1 development or sales management data. I think  
2 Dr. Steward calls it sales management data. And  
3 it's -- in fact, there's some discussion of this in --  
4 I guess it's Exhibit 20.

5 The two key things that I took away from that  
6 were that in some instances -- not a lot -- but in  
7 some instances there is an evaluation of somebody's  
8 promotability and also a measure of somebody's  
9 mobility and you get a rating from, I think, one to  
10 five, one is the best, five is the worst.

11 Q. Okay. And the SMD data that you recorded  
12 was -- if you need to look at your report to refresh  
13 your memory, let me know -- but the CS department SMD  
14 data for 2006? Do you recall looking at that?

15 A. Yes.

16 Q. The CS department SMD data for 2007?

17 A. Yes.

18 Q. I'm sorry. 12 of '07. The CS department SMD  
19 data for 3 of '07?

20 A. Yes. There were a series of files and they were  
21 all SMD data --

22 Q. Okay. Customer --

23 A. -- for different dates and different years.

24 Q. Customer service department SMD data?

25 A. Yes.

1 Q. And then as well, the base 2008 SMD completion?

2 A. That sounds familiar, yes.

3 Q. If you would look at now Plaintiff's Exhibit 50.  
4 If you would, please tell the court what is depicted  
5 in Plaintiff's Exhibit 50.

6 A. Okay. Well, this is asking about the  
7 availability of data or the lack of availability of  
8 data, and this looks at whether people who are  
9 promoted from inside to outside sales had data in the  
10 applicant flow data and information on their  
11 promotability, a P code, and information on their  
12 mobility, the M code.

13 MR. SMOLEN: Your Honor, I'd ask that we  
14 move to admit Plaintiff's Exhibit 50.

15 THE COURT: Any objection?

16 MR. MORGAN: Yes, Your Honor. There's been  
17 no foundation for this, that he actually looked at the  
18 promotability codes as they applied to the dates of  
19 promotion, because as we know, a P5 can change into a  
20 P1. So if he's looking at a promotion that comes  
21 about in June when a person was a P5 in November, then  
22 there's no -- there's no correlation there. He hasn't  
23 done the detailed work to make this analysis, and, in  
24 fact, the documents he looked at don't support this  
25 analysis whatsoever.

1 THE COURT: I'm going to reserve a ruling  
2 on its admissibility. We need a bit more foundation.  
3 And frankly, I'm going to allow Mr. Morgan to voir  
4 dire the witness with regard to this particular  
5 exhibit before deciding its admissibility.

6 You can inquire, Mr. Smolen, with regard to  
7 laying a foundation here.

8 MR. SMOLEN: I'm sorry. You were going to  
9 have Mr. Morgan voir dire him now?

10 THE COURT: Well, he may if you have no  
11 additional questions of the witness with regard to  
12 this particular exhibit.

13 MR. SMOLEN: I could ask some more  
14 foundational questions, if you'd like.

15 THE COURT: Please.

16 Q. (BY MR. SMOLEN) Dr. Killingsworth, when you were  
17 looking at the applicant flow data, you looked at what  
18 the company had produced as far as applicant flow  
19 data; correct?

20 A. Yes.

21 Q. Okay. And you looked at the promotability codes  
22 and the mobility codes that were contained in the  
23 entire SMD data that was provided to you; correct?

24 A. Yes.

25 Q. Okay. And you found that persons with missing

1 data, that there were 215 of those people in that SMD  
2 data that did not have a P code assigned to them;  
3 correct?

4 A. That's right. This is not about whether you had  
5 a P1 or a P5 or something else. This is concerned  
6 solely with whether you had any P value.

7 Q. Right.

8 A. And similarly for the M value.

9 Q. You knew they had been entered into the SMD data  
10 because you were looking at the SMD files; correct?

11 A. Right.

12 Q. And all you were doing here was making a  
13 determination of those who had been entered into the  
14 SMD data, that 215 of them did not have P codes?

15 A. Right. So this is talking about blanks, not  
16 values.

17 Q. Right. It simply wasn't there?

18 A. No codes rather than codes of P1 or M3 or  
19 anything else.

20 Q. And with respect to mobility codes, you looked in  
21 the SMD data and you determined that there were 179  
22 individuals in the SMD data who had not had an M code  
23 assigned to them?

24 A. There were a lot of missing M codes, that's  
25 right.

1 Q. Okay. And then you just did a simple percentages  
2 of that amount and you said 76 percent and 63 percent  
3 roughly; correct?

4 A. That's right.

5 MR. SMOLEN: Your Honor, I'd move to admit  
6 it. We're not talking at this point P3 to P5. We're  
7 talking about whether they had the data there or  
8 not.

9 THE COURT: All right. I appreciate you  
10 clarifying that. I'm going to give Mr. Morgan an  
11 opportunity to voir dire with respect to this  
12 particular document. Go ahead, sir.

13 **VOIR DIRE EXAMINATION**

14 **BY MR. MORGAN:**

15 Q. Dr. Killingsworth, from whom did you gain an  
16 understanding of what the SMD documents were?

17 A. Do you mean the files, the computer files?

18 Q. Yeah, the files.

19 A. Oh, well, I looked at them first and foremost;  
20 and secondly, I looked at the document we saw just a  
21 moment ago about the -- what is it? -- GCD --

22 Q. Doctor, you didn't list that as one of the  
23 documents you looked at. How can you say you looked  
24 at it now? You didn't list that as one of the  
25 documents you reviewed in coming up with your

1 analysis.

2 A. Well, I had it. If I failed to list it, it was  
3 an oversight. I think -- I don't remember seeing a  
4 Bates number. Maybe that's why it was a mistake on my  
5 part in that case.

6 Q. When you put together your report, are you  
7 careful?

8 A. I try to be, of course.

9 Q. And do you list the material that you rely upon  
10 in coming up with your opinions?

11 A. Yes.

12 Q. Okay. So the first time around, your first  
13 opinion, which is Plaintiff's Exhibit 1, you listed  
14 two documents that you looked at?

15 THE COURT: Now we're getting a little far  
16 afield. I want to focus on this particular document.  
17 You're going to have an opportunity to  
18 cross-examine.

19 MR. MORGAN: Yes, sir. Okay.

20 THE COURT: Your objection was that this  
21 document was based upon either incomplete or improper  
22 documentation. We need to focus on this document.

23 MR. MORGAN: Yes, Your Honor.

24 Q. (BY MR. MORGAN) In terms of looking at the SMD  
25 sheets, you saw that they were as of a certain date;



1 correct?

2 A. Yes.

3 Q. There's one for 4/17/2006. Did you take the  
4 dates that those documents were created into account  
5 in doing your analysis to put together the Exhibit 50  
6 that we were looking at?

7 A. No. Because I didn't need to.

8 Q. So you just looked at all the documents, and  
9 regardless of when the promotion occurred, you then  
10 made a decision?

11 A. well, I didn't make a decision. I just asked, do  
12 I find an M code for this person ever? Do I find a P  
13 code for this person ever? If the answer was no,  
14 then -- then the answer is there's not a P code or an  
15 M code for them. So I didn't need to localize it by  
16 date, if that's what you're asking.

17 Q. That's what I'm asking.

18 A. Not for purposes of this.

19 Q. Okay. Is there any requirement that a company  
20 keep SMD records on a periodic basis?

21 A. well, I'm not aware of any such requirement.

22 Q. All right.

23 A. But from the point of view somebody analyzing the  
24 data --

25 Q. No, sir. You answered my question. Thank you,

1 Doctor.

2 Now, so a person who might not appear on a  
3 spreadsheet could still be qualified, could still have  
4 an interest, and could still get into the running;  
5 correct?

6 MR. SMOLEN: Your Honor, I'm going to  
7 object. This doesn't seem to be proper voir dire for  
8 these documents that we're talking about.

9 THE COURT: I understand. We're really  
10 looking here at the statistical analysis. I  
11 understand your bigger, broader overview here in your  
12 objections, but what we're trying to determine is --  
13 forgive me; you all have lived with this case far  
14 longer than I -- but we're trying to determine whether  
15 or not there is data by which this witness can  
16 determine the promotability and mobility of these  
17 people who are actually promoted from inside to  
18 outside sales in terms of an available database.

19 MR. MORGAN: We're just talking about in  
20 the database but with the understanding that that is  
21 not the be all and end all. If he's just looking at a  
22 document at a given time and coming up with a number  
23 that data may or may not be present, then I think  
24 that's what he's done.

25 Q. (BY MR. MORGAN) Is that right, Doctor?

1 A. well, not really. I was looking at whether data  
2 are or are not present, not whether they may or may  
3 not be present. And I quite agree, there may be all  
4 kinds of data floating out there or notes scribbled  
5 down or anything else that I didn't have, but what I  
6 found was a lot of blanks.

7 Q. Okay. And do you know if the blanks -- do you  
8 think the blanks meant that they didn't complete them  
9 or that there was no need to complete them? You don't  
10 know?

11 A. That would be speculation on my part.

12 Q. Okay. So you don't know one way or the other  
13 whether they were blank for a purpose or not?

14 A. All I know is that there were lots and lots of  
15 blanks.

16 Q. Okay.

17 MR. MORGAN: No further questions, Your  
18 Honor.

19 THE COURT: Very well. The objection's  
20 overruled. Plaintiff's Exhibit 50 is admitted. Go  
21 ahead, sir.

22 MR. SMOLEN: Your Honor, I'm going to spend  
23 some time on the next section. It's 11:45. I didn't  
24 know if you wanted to break now or if you'd rather me  
25 continue until you're ready to take a break.

1 THE COURT: If this is a good place to  
2 break, we'll do so at this time. It's 11:50. We'll  
3 reconvene here at 1:15.

4 MR. SMOLEN: Thank you, Your Honor.

5 *(Lunch recess was taken)*

6 THE COURT: Mr. Smolen.

7 MR. SMOLEN: Thank you, Your Honor. Your  
8 Honor, I couldn't remember if we actually had admitted  
9 Plaintiff's Exhibit 50 before we stopped.

10 THE COURT: I show that we did.

11 MR. SMOLEN: Okay. Thank you.

12 THE COURT: Mr. Overton.

13 DEPUTY COURT CLERK: I have 50 admitted,  
14 yes.

15 Q. *(BY MR. SMOLEN)* Dr. Killingsworth, we've talked  
16 about applicant flow and we've talked about SMD data.  
17 Are you familiar with what the P code is or what you  
18 understood it to be?

19 A. Yes.

20 Q. Okay. And what did you understand the P code to  
21 be?

22 A. Well, it's supposed to be a measure of  
23 promotability.

24 Q. Okay.

25 A. And 1 is the most promotable and 5 is the

1       least.

2       Q.     And did you conduct an analysis based around the  
3       P code?

4       A.     Well, I compiled statistics on the presence of  
5       the P code.

6       Q.     Okay. And why --

7       A.     I wouldn't call that a statistical analysis.

8       Q.     Why did you do that?

9       A.     Because from having looked at the data, just  
10      eyeballing it, it seemed pretty clear that there were  
11      a lot of empty buckets missing. So I then set out to  
12      try and be a little bit more systematic in detailing  
13      that.

14               MR. SMOLEN: One second, Your Honor.

15               THE COURT: Yes, sir.

16               MR. SMOLEN: May I approach, Your Honor?

17               THE COURT: Yes, sir.

18               *(Discussion held off the record)*

19       Q.     *(BY MR. SMOLEN)* Dr. Killingsworth, I've asked  
20      you to take a look at paragraph 5 of your supplemental  
21      report.

22               THE COURT: Is this an exhibit?

23               MR. SMOLEN: No, it's not, Your Honor. I'm  
24      using it to refresh his memory as to why he looked at  
25      the P code ratings.

1 MR. MORGAN: Your Honor, I don't think he's  
2 exhausted his memory at this point to refresh it at  
3 this point.

4 MR. SMOLEN: I can ask him --

5 THE COURT: That's right. Sustained. Go  
6 ahead.

7 Q. (BY MR. SMOLEN) Dr. Killingsworth, do you recall  
8 Dr. Steward opining that you did not take into  
9 consideration those factors which would relate to a  
10 person's promotability?

11 A. Yes.

12 Q. Okay. And did you prepare a report in response  
13 to that?

14 A. Yes.

15 Q. Okay. And would looking at that report help you  
16 refresh your memory as to what you found with respect  
17 to the P code findings?

18 A. Yes. Among other things.

19 Q. Okay.

20 A. There were other things in the report but --

21 Q. Okay. Let's focus just on that now, if you  
22 would, please.

23 On paragraph 5 -- in reviewing paragraph 5, does  
24 that refresh your memory as to why you did a study on  
25 the P code?

1 A. Yes. Well, it provided some documentation of my  
2 sort of general impression that the P code was missing  
3 in a lot of cases.

4 Q. Okay. If you would, what does paragraph 5  
5 indicate in your report that Steward had opined with  
6 respect to equally qualified employees?

7 A. Well, he said, I think, that applicants for  
8 promotion are not all equally qualified, and the P  
9 code was apparently supposed to be intended as a  
10 measure of promotability and, I guess, qualifications  
11 for promotion.

12 Q. And is that why you then went back and looked at  
13 the SMD data as it pertained to P codes?

14 A. Right. Well, I just wanted to see how  
15 widespread -- sorry -- to what extent was it available  
16 at all.

17 Q. Okay. And based on your review of Steward's  
18 report, did he actually do an analysis or regression  
19 analysis where he took into consideration the P code?

20 A. No. I'm not aware of any study that he did --

21 Q. Okay.

22 A. -- that took into account the P code in any way.

23 Q. Okay. And the same thing with respect to the  
24 mobility code: Did you also look at the mobility  
25 code?

1 A. I did.

2 Q. Okay. And did you do that for the same reason  
3 that Dr. Steward had opined, that mobility had  
4 something to do with promotions?

5 A. Yes.

6 Q. Okay. And do you recall what Dr. Steward opined  
7 about the M codes?

8 A. well, that mobility was potentially important --

9 Q. Okay. And did you --

10 A. -- for promotion decisions.

11 Q. And based on that, did you look at that issue?

12 A. well, I looked at the M code and, again, found  
13 that, like the P code, it was missing a lot of the  
14 time.

15 Q. Okay. And so I just want to make sure we're  
16 clear on the record. With respect to the applicant  
17 flow, you found a lot of the data missing; correct?

18 A. Correct.

19 Q. And with respect to the P code data, you found a  
20 lot of that missing; correct?

21 A. Correct.

22 Q. And the same with respect to the M code?

23 A. Correct.

24 Q. To your knowledge, did Hilti ever provide you  
25 with any data to fill the data gaps that you found?



1 A. No.

2 Q. Were you ever provided with an explanation as to  
3 why these data gaps existed?

4 MR. MORGAN: Objection, Your Honor.  
5 There's no foundation that he ever asked --

6 THE COURT: Sustained. Rephrase.

7 Q. (BY MR. SMOLEN) Did Hilti provide you any  
8 documentation -- when you had requested to look at  
9 what their expert had looked at, did any of that  
10 documentation indicate to you an explanation as to why  
11 there were data gaps?

12 A. No. It showed the gaps but it didn't show an  
13 explanation or a reason for the gaps or reasons for  
14 the gaps.

15 Q. Looking at -- if you would, turn to Plaintiff's  
16 Exhibit 51. And after you've had an opportunity to  
17 look at that table, let me know when you're ready.

18 A. Yes.

19 Q. Okay. Do you recognize Plaintiff's Exhibit 51?

20 A. I do.

21 Q. What is Plaintiff's Exhibit 51?

22 A. Well, that's a tabulation of a combination of  
23 availabilities, I guess I would call it, is  
24 availability -- is there data available for applicant  
25 flow and/or promotability and/or mobility. So, for

1 instance, the first row says yes, yes, yes, meaning  
2 that there is some people for whom applicant flow data  
3 are available, promotability data are available, and  
4 mobility data are available, and the number of such  
5 people is 15.

6 Q. Okay. And what percentage of the total of the  
7 male employees -- or the total employees promoted from  
8 inside sales to outside sales had all of these alleged  
9 qualification factors indicated in the data?

10 A. 5.3 percent, roughly one in twenty.

11 Q. And then you also looked at other variations of  
12 that, did you not, that indicated whether they had a  
13 promotability code or a mobility code and you made  
14 different determinations, didn't you?

15 A. Right.

16 Q. would you go ahead and explain to the court what  
17 each of these rows indicates?

18 A. Sure. Well, the second line says yes, yes, no,  
19 and by looking at the column, you can see what the  
20 "yes" refers to. Again, the second line, yes, there  
21 is applicant flow data for certain people; yes,  
22 there's also promotability data for those people; but  
23 there is no M code mobility data for those people, and  
24 they are a total of ten people in total.

25 Q. And then explain, if you would, the next row

1 down, please.

2 THE COURT: I think all of this is fairly  
3 easily understood.

4 MR. SMOLEN: Okay. Your Honor, I'd move to  
5 admit Exhibit 51, Plaintiff's Exhibit 51.

6 THE COURT: Any objection?

7 MR. MORGAN: Same objections as before,  
8 Your Honor.

9 THE COURT: Yes, sir. Plaintiff's 51 is  
10 admitted.

11 MR. SMOLEN: Thank you, Your Honor.

12 Q. (BY MR. SMOLEN) Dr. Killingsworth, after you  
13 performed this study, did you form any opinions as to  
14 how the data gaps you identified impact the analysis  
15 conducted by Hilti's expert, Dr. Steward?

16 A. Well, in a sense, the missing data don't impact  
17 the analyses of his that I know about at all because,  
18 as I think you asked me previously, he didn't use the  
19 P code in any of the analyses I know about and he  
20 didn't use the M code. So as far as those two pieces  
21 of data are concerned, it had no effect whatsoever on  
22 what he did.

23 However, the availability or lack of  
24 availability of applicant flow data had I would  
25 think -- I think it's fair to say a profound effect on

1 the quality and meaningfulness of his analyses.

2 Q. Okay. Did you find that the gaps in the data  
3 were pervasive and significant?

4 A. Yes.

5 Q. And did you find that they were so significant  
6 that they rendered Dr. Steward's analysis meaningless?

7 A. Yes.

8 Q. Leaving aside the missing data, does the  
9 available SMD data and applicant flow data provide any  
10 information on the promotion of persons from inside to  
11 outside sales at Hilti?

12 A. Well, it tells you that there were some people  
13 who had these codes and a lot of others who didn't,  
14 and it tells you that some people had good codes,  
15 favorable codes, and other people had less favorable  
16 codes. That's about as far as I would feel able to  
17 go.

18 Q. Okay.

19 A. Again, largely because so much is missing.

20 Q. Okay.

21 A. It would be a mistake, I think, to generalize  
22 from such a subset of the data, particularly when we  
23 don't know what the rest of the data for which things  
24 are missing looks like.

25 Q. Okay. Let's look at Exhibit 68, the SAP

1 database. And I'm going to have you look at a  
2 particular employee, and his employee code is 33170  
3 and his name is Seth M. Spinhirne. Do you see that?

4 A. I do.

5 Q. Okay. And was he one of the individuals that you  
6 identified as promoting from inside sales to outside  
7 sales during the relevant time frame?

8 A. Yes.

9 Q. And you did that, again, by seeing there on SAP  
10 that he went from a wage-earner at a Hilti center to  
11 an AM II?

12 A. Could you scooch it over a little bit? Sorry.

13 Q. Keep going. It's under the job there.

14 A. Right.

15 Q. We see he moved from a Hilti center rep;  
16 correct?

17 A. To AM II. Sorry.

18 Q. To AM II. You understood that to be an inside  
19 sales promotion to outside sales; correct?

20 A. Yes. And that happened on December 3rd of  
21 2007.

22 Q. And because it happened on December 3rd of 2007,  
23 that was in your relevant time frame that you  
24 studied?

25 A. Correct.

1 Q. Okay. Now --

2 A. It was in 2005 to 8. I'm not opining about  
3 what's a relevant time period or not.

4 Q. Okay.

5 A. That was within the parameters of the time period  
6 I was given.

7 MR. SMOLEN: And, Simon, if you would,  
8 could you pull up the February 2006 customer service  
9 department, I believe it's Exhibit 79.

10 Q. (BY MR. SMOLEN) And did you find his name to  
11 appear also in the SMD data?

12 A. Yes.

13 Q. Okay. And is it here on the screen that says  
14 same employee code, 33170?

15 A. Yes.

16 Q. And his name was Seth Spinhirne again; correct?

17 A. Yes, yes.

18 Q. And the P code that was indicated for  
19 Mr. Spinhirne was a P5; correct?

20 A. Correct.

21 Q. And did you understand that to be a promotability  
22 code associated with someone who was not capable of  
23 being promoted?

24 A. Well, it was the least favorable P code that  
25 could be given.

1 Q. Okay. And, again, we have missing data on the M  
2 code; correct?

3 A. Correct. Nothing that says how mobile he is or  
4 isn't.

5 MR. MORGAN: Your Honor, I move to strike  
6 this entire line of questioning because he was  
7 promoted in '07, the end of '07, and what we're  
8 looking at is February '06 when he's P5, which means  
9 he's a new employee basically. So this is  
10 meaningless.

11 MR. SMOLEN: Can I respond?

12 THE COURT: All right. Go ahead, sir.

13 MR. SMOLEN: Your Honor, this was the last  
14 rating -- and this is all information that has been  
15 admitted and provided by Hilti -- but this was the  
16 last rating that Mr. Spinhirne was rated under SMD.

17 THE COURT: Well, once again, you're  
18 testifying. You cannot testify here.

19 MR. SMOLEN: I'll ask the expert then.

20 THE COURT: I cannot take testimony from  
21 the attorney.

22 MR. SMOLEN: Thank you.

23 THE COURT: All right. Go ahead.

24 Q. (BY MR. SMOLEN) Dr. Killingsworth, did you find  
25 Mr. Spinhirne in any other SMD data?

1 A. I don't think so, no.

2 Q. Okay. So was the last available data that you  
3 had to look at this data that's before you in Exhibit  
4 79?

5 A. As far as -- as far as I'm aware, yes.

6 Q. Okay. And the last SMD P rating that was  
7 provided or assigned to Mr. Spinhirne was what?

8 A. The P code you mean or --

9 Q. Yes, the P code.

10 A. It was P5.

11 Q. Okay. And based on your review of the SMD data,  
12 was the last -- did you ever find any mobility code  
13 entered into the information?

14 A. I don't think so, no.

15 Q. Okay. And as we go across and we look at the PMP  
16 information from '06, '07, '08, and '05, did you find  
17 any PMP information as it pertained to Mr. Spinhirne  
18 in any of the SMD data?

19 A. No. There isn't one shown in any of those  
20 columns for any of the years.

21 Q. But you, by looking at the SAP data, determined  
22 that he did, in fact, promote; correct?

23 A. Yes, you can see that. In fact, we just saw it.

24 MR. MORGAN: Your Honor, I'm going to renew  
25 my motion to strike his testimony at this point



1 because this -- number one, he's in customer service  
2 at this point. The prior document showed that he  
3 promoted out of a Hilti center. It's obvious that  
4 he's comparing apples to oranges here.

5 THE COURT: All right. Well, he'll be  
6 subject to cross-examination in this regard. Also,  
7 again, he testified here that there was no PMP code  
8 for 2006, 7, or 8. Obviously if this was done in  
9 February '06, there wouldn't be a PMP code for 6, 7,  
10 or 8; correct?

11 THE WITNESS: Correct.

12 THE COURT: I'll take all of this into  
13 consideration given that his promotion occurred in  
14 December of '06 and this particular SMD data was  
15 February '06 and we'll see if there's any other SMD  
16 data out there.

17 MR. SMOLEN: Thank you, Your Honor.

18 THE COURT: Go ahead. And the motion to  
19 strike will be denied.

20 Q. (BY MR. SMOLEN) Looking at Exhibit 52, do you  
21 recognize Exhibit 52, Dr. Killingsworth?

22 A. Yes.

23 Q. And what is Exhibit 52, if you would, please?

24 A. Well, that tabulates the number of people by  
25 promotability code, how many got P1, P2, and so forth.

1 Q. Okay. And what was your understanding as to the  
2 difference between P1 and P5?

3 A. Well, the lower the number, P1, the better the  
4 rating, the more promotable you are considered to be  
5 according to that rating scheme.

6 Q. And looking at Exhibit 34, which has been  
7 previously admitted -- I'm sorry -- Plaintiff's  
8 Exhibit 35, specifically paragraph 9, take a minute,  
9 Dr. Killingsworth, to review paragraph 9 of Exhibit  
10 35, if you would, please?

11 A. I see it.

12 Q. And was Ms. DeGiacomo's description of the P  
13 codes consistent with your understanding when you were  
14 conducting your analysis?

15 A. Yes.

16 Q. Thank you. Did you draw any conclusions from  
17 your review of this data?

18 A. Well, again, primarily there are a lot of people  
19 with missing data, and sometimes, since these are all  
20 for people who are promoted, it was a little  
21 surprising to see that in some cases the ratings  
22 weren't at the top, they weren't P1s. It wasn't the  
23 case that everybody promoted was a P1. I guess that's  
24 the simplest way to put it.

25 Q. Have you ever been provided with any explanation

1 as to why nearly half of the promotions to outside  
2 sales were P5s --

3 MR. MORGAN: Objection, Your Honor.  
4 Objection, Your Honor. Provided by whom and who had  
5 any obligation to provide him anything?

6 THE COURT: Sustained.

7 Q. (BY MR. SMOLEN) Let's look -- did you draw any  
8 conclusions from this data?

9 A. well, I think I just stated them.

10 Q. Okay.

11 A. First of all, a lot of promotability codes are  
12 missing; and secondly, a lot are not P1.

13 Q. with respect to those that we did have  
14 promotability codes, I'd have you look at your  
15 supplemental report to see if this refreshes your  
16 memory as to what your finding was, specifically page  
17 4 of the supplemental report.

18 MR. MORGAN: Objection, Your Honor. He  
19 hasn't testified that his memory is faulty in this  
20 regard.

21 THE COURT: Sustained.

22 Q. (BY MR. SMOLEN) Do you recall every opinion that  
23 you made regarding the P code --

24 A. No.

25 Q. -- findings?

1 A. No.

2 Q. would it help refresh your memory if I were to  
3 have you look at your supplemental report?

4 A. Absolutely.

5 Q. Okay.

6 A. I rarely hold a lot of things in memory. I  
7 prefer to work with paper.

8 MR. MORGAN: Your Honor, I object. I mean,  
9 he hasn't asked a specific question. He's just asked,  
10 do you remember everything you've put in your  
11 report.

12 THE COURT: That's correct. The  
13 objection's sustained. We have to get an inability to  
14 remember with regard to a specific question.

15 Q. (BY MR. SMOLEN) Do you recall your opinion in  
16 its entirety as it pertained to your analysis on  
17 the -- or on the P code information that was contained  
18 in the SMD data?

19 A. well, as far as that goes, I think I already said  
20 it. First of all, the P code appeared to be missing  
21 for a large number of people; and secondly, for a  
22 large number of people, the P code that they got was  
23 not P1, it was something lower than that.

24 Q. Did you make any findings, or do you recall  
25 making any findings, as to individuals who were

1 promoted that had the least promotable code?

2 A. Well, I think we saw one.

3 Q. I identified one for you but --

4 A. Right. Well, there were various others. I  
5 didn't create a list of individual people, if that's  
6 what you mean, who had a P5 or, let's say, a P4.

7 Q. Did you find that a substantial number of persons  
8 who were the least promotable were nevertheless  
9 promoted?

10 A. That appears to be the case, yes, that's right.

11 Q. Okay.

12 THE COURT: You understand, Doctor, here  
13 you agreed with the terms as set forth in Plaintiff's  
14 35, that P5 related to people who had been in the  
15 position for six months or less; right?

16 THE WITNESS: Right.

17 THE COURT: Not in a position long enough  
18 to be rated?

19 THE WITNESS: Right.

20 THE COURT: You understand that in the one  
21 example I've been given, Seth Spinhirne, this man was  
22 rated P5 in February of '06; correct?

23 THE WITNESS: Correct.

24 THE COURT: He was not promoted until  
25 December of '07; correct?

1 THE WITNESS: Correct.

2 THE COURT: He would not have been a P5 in  
3 December '07 because he had obviously been in the  
4 position for six months or more; correct?

5 THE WITNESS: Correct.

6 THE COURT: Let's move on.

7 Q. (BY MR. SMOLEN) Looking at Plaintiff's Exhibit  
8 53, do you recognize Plaintiff's Exhibit 53?

9 A. I do.

10 Q. And what do you recognize that exhibit to be?

11 A. That's a simple tabulation of the mobility code  
12 for people who had one.

13 Q. And what did you find with respect to  
14 individuals' mobility codes?

15 A. Well, there were a lot of people, nearly half,  
16 who were rated most mobile, and there were 18 or 19  
17 percent who were rated least mobile, and about 35  
18 percent who were rated in between --

19 Q. Okay.

20 A. -- of the ones with a rating. And, again, I  
21 would want to emphasize that not everybody had a  
22 rating. Of course we've seen that.

23 Q. This is limited to those employees whose SMD data  
24 did contain mobility codes; correct?

25 A. Correct.

1 Q. Okay. And what did you find with respect to the  
2 M code data?

3 A. Well, in this case, that among those who were  
4 promoted, the mobility code ranged from the top to the  
5 bottom.

6 Q. Forty-six percent for the most mobile and  
7 eighteen percent to the least mobile; correct?

8 A. Right.

9 Q. Did you draw any conclusions from the available M  
10 code data?

11 A. Well, I think, just as has been stated, the prior  
12 thing which I think is important is that not everybody  
13 has a mobility code, and I think you can't really look  
14 at table 4 without recalling that. So that's an  
15 important -- maybe not caveat -- but an important  
16 thing to underline. And then secondly, people are  
17 promoted when they have mobility codes of 2 or 3.

18 Q. Okay. Essentially people were promoted despite  
19 their mobility code being nonmobile or restricted;  
20 correct?

21 MR. MORGAN: Objection, Your Honor. It's  
22 not a despite. I mean, there's been no tie-in to  
23 where these people that he's studied wanted to go.

24 THE COURT: Sustained. This is a  
25 statistical analysis. Objection sustained.

1 MR. SMOLEN: Okay. One second, Your Honor.

2 THE COURT: Yes.

3 *(Discussion held off the record)*

4 MR. SMOLEN: Your Honor, we'd move to admit  
5 Plaintiff's Exhibit 53.

6 THE COURT: Any objection to 53?

7 MR. MORGAN: Yes, Your Honor. It's  
8 completely meaningless and there hasn't been an  
9 adequate foundation that it applies to anything, any  
10 issue in this case.

11 THE COURT: Overruled. I think, as the  
12 professor says, probably the most meaningful aspect of  
13 this is that only 103 of the 282 had mobility codes.  
14 The Exhibit No. 53 is admitted.

15 MR. SMOLEN: Thank you.

16 Q. *(BY MR. SMOLEN)* Did you have any understanding  
17 as to whether, quote, a future job identified was  
18 supposed to play a role in the Hilti promotional  
19 process?

20 A. I think so. It's recorded in the data.

21 Q. Okay.

22 A. And I looked at that as well.

23 Q. Did you look at the available future job  
24 identified data?

25 A. I did, yes.



1 Q. And did you study that data?

2 A. In the same way that I studied these other, the P  
3 codes and the M codes and so forth. I basically  
4 tabulated them, I didn't do a fancy statistical  
5 analysis.

6 Q. Okay. If you would, look at Plaintiff's Exhibit  
7 55, please.

8 A. whoops. Yes.

9 Q. Do you recognize Plaintiff's Exhibit 55?

10 A. I do.

11 Q. what is Plaintiff's Exhibit 55?

12 A. well, that's a list of the entries in the field  
13 for future job identified in the data, and most of the  
14 time, 90 percent or so, this is simply not given.

15 Q. when you --

16 A. So a scattering, a handful, of people have some  
17 sort of future job identified, future job at Hilti,  
18 but the vast bulk of people don't have anything in  
19 there. So I can only speak about what's recorded in  
20 the data, but what's recorded in the data is a big  
21 blank for a lot of people.

22 Q. And I believe you found it was 90.4 percent of  
23 those promoted had not identified a future job?

24 A. Correct. well, I'd hesitate to say that. I  
25 don't know who did the identifying, but whoever did

1 the identifying didn't do any identifying for most of  
2 the people here.

3 Q. Okay. And those, again, were just limited to the  
4 one -- the individuals who were promoted from inside  
5 to outside sales; correct?

6 A. Right.

7 Q. Do you recall looking also at PMP ratings when  
8 you were studying those alleged qualifications that  
9 Dr. Steward had opined on regarding promotability?

10 A. Yes.

11 Q. If you would, look at Plaintiff's Exhibit 54,  
12 please.

13 A. Yes.

14 MR. SMOLEN: Oh, I'm sorry, Your Honor.  
15 Can we move to admit Plaintiff's Exhibit 55?

16 THE COURT: Any objection?

17 MR. MORGAN: If I may voir dire the witness  
18 about that, I would appreciate it.

19 THE COURT: Yes, sir. Go ahead.

20 MR. MORGAN: If you would put it back up,  
21 Simon, I would appreciate it so I don't have to take  
22 the time.

23 VOIR DIRE EXAMINATION

24 BY MR. MORGAN:

25 Q. Sir, did you make any attempt to exclude Canadian

1 employees?

2 A. No.

3 Q. So this includes employees in Canada as well as  
4 the United States?

5 A. well, this includes the people who were promoted  
6 from inside to outside sales.

7 Q. Yeah. But you've also included Canadians in  
8 there?

9 MR. SMOLEN: Objection, Your Honor.

10 There's no evidence. If Mr. Morgan would like to show  
11 he's included a Canadian --

12 Q. (BY MR. MORGAN) Okay. How about Toronto?

13 THE COURT: Overruled. Go ahead.

14 A. well, my understanding is that this doesn't tell  
15 us where somebody was currently employed or about  
16 their citizenship. This tells you that a future job  
17 was identified, and I guess in this case in Toronto,  
18 for that person, but that's different from saying  
19 they're in Toronto now. This is a future job.

20 Q. (BY MR. MORGAN) Okay. And you don't have any  
21 team leaders listed?

22 A. By that, do you mean people who were team  
23 leaders --

24 Q. People who wanted to become team leaders.

25 A. Oh. This was what was in there. well, there's a

1 senior team leader, yes.

2 Q. But no team leaders?

3 A. Not that I can see, no. Not here.

4 Q. Did you look at the 2005 data for customer  
5 service?

6 A. Yes.

7 Q. And you saw no team leaders?

8 A. well, where?

9 Q. In future job or --

10 A. I don't think so, no.

11 Q. Okay. And did you look at 2006?

12 A. Yes.

13 Q. Did you see any team leaders listed there?

14 A. No. I don't think so, no.

15 Q. Okay. I guess we're going to have to get out the  
16 documents.

17 okay. This is the 2006 -- February 2006  
18 document. You see where people are in the column here  
19 where people are indicating what they want to become,  
20 senior team leader or AM, things of that nature?

21 A. Okay.

22 Q. See --

23 A. would you mind skating up so I can see the column  
24 heading? Oh, no.

25 Q. Oh, did we pass it? Yeah. Potential next step.

1 A. Okay.

2 Q. And then we've got follow Charles, could go pro  
3 shop. I don't see that one listed. Senior team  
4 leader here, we got team leaders, we got logistics, we  
5 got marketing, we got HR. So you didn't take those  
6 into account in your document that you created here,  
7 did you?

8 A. I'd have to check that.

9 Q. Well, let's check it.

10 MR. MORGAN: Could you put that back up,  
11 please, Simon? What document -- what trial exhibit we  
12 were looking at?

13 THE COURT: 55.

14 MR. MORGAN: 55. I'll just do it myself.  
15 I apologize, Your Honor. There we go, F, future job  
16 identified, 55.

17 THE COURT: That's what I have on table  
18 6.

19 MR. SMOLEN: Plaintiff's 55.

20 THE COURT: Somehow your 55 is my 54.

21 MR. MORGAN: 54. Okay. Well, I just used  
22 what they gave me. Simon, would you mind putting that  
23 Plaintiff's 55 up?

24 MR. SMOLEN: Table 6.

25 MR. MORGAN: Okay. Plaintiff's 55.

1 Q. (BY MR. MORGAN) Do you see any team leaders  
2 there?

3 A. No, I don't.

4 Q. You don't see any of those that we just went  
5 over, HL, AL? That's not listed; correct?

6 A. I don't see them, no, that's right.

7 Q. And I think there was some marketing and some  
8 things like that. Those aren't listed either, are  
9 they?

10 A. I don't remember marketing, but I would have to  
11 check and go back and look.

12 MR. MORGAN: Your Honor, I would move to  
13 exclude this. It's absolutely incomplete and he used  
14 the wrong methodology in compiling it.

15 MR. SMOLEN: Your Honor, can I ask  
16 Dr. Killingsworth just a couple questions?

17 THE COURT: Of course.

18 Q. (BY MR. SMOLEN) Mr. Killingsworth, the names  
19 that Mr. Morgan showed you where they had identified  
20 team leader positions, this table you prepared is just  
21 for those persons who were actually promoted;  
22 correct?

23 A. Correct.

24 Q. You didn't look at future job identified for  
25 people, such as Ms. Tabor, who had identified team

1 leader who weren't promoted, did you?

2 A. Right. No.

3 Q. Okay.

4 MR. SMOLEN: Your Honor, this table -- the  
5 title of this table 6 is, future job identified for  
6 persons, quote, promoted from inside sales to outside  
7 sales.

8 THE COURT: I understand. Plaintiff's 55  
9 is admitted.

10 MR. SMOLEN: Thank you, Your Honor.

11 Q. (BY MR. SMOLEN) Dr. Killingsworth, I'm going to  
12 have you focus now a little bit more on the rebuttal  
13 again to Dr. Steward's report. If you would, take a  
14 look at Plaintiff's Exhibit 56. What does Exhibit 56  
15 depict?

16 A. Well, it tells us that there were a great number  
17 of people who were promoted from inside to outside  
18 sales over this whole period who weren't in the  
19 applicant flow log at all.

20 Q. Did Dr. Steward utilize the applicant flow logs  
21 in his analysis?

22 A. He did. And, in fact, so far as I am aware --  
23 and I looked at his report very thoroughly --  
24 that's -- the only study that he talks about about  
25 promotions from inside to outside sales relies

1 exclusively on the applicant flow log.

2 Q. Based on your analysis of the lack of applicant  
3 flow log data, did Dr. Steward omit promotions that  
4 occurred from 2005 to 2008?

5 A. He omitted a great -- well, I didn't know if he  
6 omitted them, but he didn't study them because they  
7 weren't in the applicant flow data.

8 Q. About how many promotions did Dr. Steward omit  
9 from the analysis?

10 A. Roughly 90 that weren't in the applicant flow  
11 log; 92 I think it is.

12 Q. And did you make a finding that that was  
13 two-thirds of the actual promotions that took place?  
14 More than two-thirds --

15 A. Yeah.

16 Q. -- were not accounted for by Dr. Steward?

17 A. No, no. The other way around, I think.  
18 Eighty-three weren't in the applicant flow log for  
19 men, and nine weren't in the applicant flow log for  
20 women.

21 Q. And, again, was it your understanding that  
22 Dr. Steward I believe in paragraph 19, and then  
23 attached a picture graph to that, made a final  
24 determination that nine women were promoted during the  
25 relevant -- or the identified time period and that



1 -- nine women and --

2 MR. SMOLEN: One second, Your Honor.

3 Q. (BY MR. SMOLEN) Did you come to the conclusion  
4 that Dr. Steward had reached an erroneous finding that  
5 nine women were promoted in Hilti?

6 A. That's clearly erroneous. A good deal more women  
7 than that were promoted at Hilti.

8 Q. But even though more women were promoted, you  
9 still found a statistical disparity in the promotional  
10 rate?

11 A. Oh, yes. Yeah, it's quite strong.

12 Q. Did you, yourself, go back and look at the  
13 processes that Dr. Steward used to come up with this  
14 erroneous conclusion?

15 A. Yes.

16 Q. What did you determine from your review of  
17 his data that he provided to you?

18 A. Right. Well, a great deal of what he did, I  
19 believe, is completely erroneous. He says, I think,  
20 if I remember correctly, that he studies promotions  
21 from 2005 to 8. However, if you actually look at the  
22 study that he mentions, the only one about internal  
23 promotions that he does mention, he doesn't, in fact,  
24 study any promotions that occurred during 2005.

25 Q. Okay.

1 A. So that's for starters.

2 Q. Okay.

3 A. Secondly, he also doesn't study, because of  
4 course it's impossible to study, any promotions that  
5 don't appear in the applicant flow log.

6 And finally, the applicant flow log -- I think I  
7 mentioned this this morning -- has various quirks and  
8 problems and gaps. So, for example, instead of saying  
9 that someone was hired or promoted, they will say that  
10 the person was, quote/unquote, a candidate. And if  
11 you look in the SAP data, it turns out that that's  
12 actually somebody who was promoted but Dr. Steward's  
13 programming ignored that so that person got counted as  
14 a nonpromotion.

15 Q. When, in fact, they were promoted?

16 A. When, in fact, they were promoted. And so that's  
17 what I would call a false negative. Is that right?  
18 They weren't -- that's right. They're classified by  
19 him as not having been promoted but they actually  
20 were. So that's a false negative.

21 And he also has false positives in the sense  
22 that if you -- if you look at the people whom he  
23 classifies as having been promoted, you find that the  
24 promotion occurred either at hire, meaning they  
25 weren't promoted from inside, they got the outside

1 sales job at entry; or alternatively, that they had  
2 been promoted well before 2005, and so therefore, they  
3 didn't get promoted within the relevant time interval.  
4 So I would call those false positives because they're  
5 not actual promotions that occurred between 2005 and  
6 2008. So there are a lot of problems.

7 Another example: In order to identify people as  
8 being internal candidates, Dr. Steward looked at some  
9 entries in some of the columns that would say, as the  
10 source of referral, our web site, or words to that  
11 effect, which would tell you -- or current employee is  
12 another example. That leaves out people who were  
13 current employees -- there are three or four of  
14 them -- who only have referral listed, and his  
15 programming overlooks the fact that they are in  
16 fact -- were, in fact, genuine employees at the time  
17 that they appeared in the Monster -- I'm  
18 sorry -- applicant log.

19 So there are errors going both ways, promotions  
20 that actually were promotions that are incorrectly  
21 classified as nonpromotions, and the reverse.

22 Q. And I want to make sure I understand you  
23 correctly, that these erroneous findings left  
24 essentially an erroneous result?

25 A. well, that's right. And I would say far and away

1 the most important problem with the result is that  
2 it's not based on anything like a full deck of  
3 employees because the applicant flow log don't give  
4 you the full deck.

5 Q. Okay. They were grossly incomplete; correct?

6 A. That's right.

7 Q. Have you seen any data which indicates that few  
8 males or females in inside sales wanted to be  
9 relocated or transferred to outside sales because of  
10 the harsh working conditions?

11 A. I've seen nothing about harsh working conditions  
12 one way or the other.

13 Q. Did you see a document that the defendant had  
14 relied upon that indicated that both men and women  
15 were not interested in promoting to outside sales?

16 A. Oh yes. Yeah. In fact, that's in Dr. Steward's  
17 report.

18 Q. Correct.

19 A. He quotes a manager of customer service saying  
20 something like, I've never been interested in outside  
21 sales and the majority of men and women in customer  
22 service are not interested in outside sales.

23 Q. And do you recall whether that was Christy  
24 Graybill's affidavit?

25 A. That's right, yes.

1 Q. Does that seem --

2 A. Well, it's -- Dr. Steward quotes her -- quotes  
3 the affidavit rather.

4 Q. Okay. And Dr. Steward puts that into his report;  
5 correct?

6 A. Right.

7 Q. And as you're looking at that information, if it  
8 was, in fact, the case that men and women were not  
9 interested in promoting to outside sales, would that  
10 in any way impact your analysis?

11 A. No.

12 Q. Why is that?

13 A. Well, for two reasons. First of all, if both men  
14 and women in customer service are expressing a  
15 reluctance -- not, I guess, an absolute refusal but at  
16 least, you know, a reluctance -- that has no sex cut,  
17 as it were. Of course, that's not a statistical  
18 analysis anyway.

19 But the other thing is that I took account of  
20 Hilti area in the Cox regressions, so that to the  
21 extent that the men and women in customer service are  
22 less keen on going into outside sales than people in  
23 other Hilti areas, I'm picking that up with the  
24 variable for Hilti area which is in those Cox  
25 regressions.

1 MR. SMOLEN: One minute, Your Honor. I  
2 just need to confer with counsel. I think we might be  
3 finished.

4 *(Discussion held off the record)*

5 MR. SMOLEN: Your Honor, I just need one  
6 second to go back through and make sure we have  
7 admitted the exhibits. Do we have 52 admitted?

8 THE COURT: No, sir.

9 MR. SMOLEN: I would move to admit  
10 Plaintiff's Exhibit 52.

11 THE COURT: Any objection?

12 MR. MORGAN: Same objection as usual, Your  
13 Honor. He hasn't tied it into the actual dates of the  
14 promotions, it's completely unreliable, the method  
15 used was completely unreliable. He compares 2007  
16 promotions to people who were listed in 2006. It's  
17 totally unreliable.

18 THE COURT: This does give me some pause  
19 here, Mr. Smolen, one, in terms of specifically how P5  
20 is characterized. I mean, it is in a sense least  
21 promotable, but it -- under Plaintiff's 35 it's more  
22 specifically and more precisely defined as those who  
23 were not in the position long enough to be rated.

24 And given the one example that you gave me of  
25 the individual who was actually promoted some, I

1 believe, 22 months later, obviously the fact that he  
2 was rated P5 in February of 2006 doesn't mean that  
3 he's P5 in December of 2007 when he's promoted.

4 The reliability here, at least as to that P5  
5 category and as to their P ranking at the time, given  
6 that these P ratings are time-sensitive -- and I  
7 understand your point that this is the last P rating  
8 that this witness found. But if it was found 22  
9 months before the person is promoted and these P  
10 ratings are, in fact, time-sensitive, particularly P5,  
11 it calls into question the reliability of this  
12 exhibit.

13 MR. SMOLEN: Can I respond to that? The  
14 SMD data, though, what we've already established  
15 through the testimony both when defendant was crossing  
16 the witness is that they relied on the SMD data for  
17 promotions. And if the SMD data only contains a P5  
18 rating, then that's, in fact, what managers had to  
19 rely upon. If the defendant were --

20 THE COURT: You've already established  
21 through the testimony specifically.

22 MR. SMOLEN: The witnesses talked about SMD  
23 data, had it applied to the promotion process, would  
24 SMD data be used, was it supposed to be used for the  
25 promotion process, were you supposed to be a P1 before

1 you could promote.

2 My point is that this is the data that the  
3 managers are looking at. Regardless of whether or not  
4 whether or not this individual ultimately became a P1,  
5 if the company has a record of that, they can  
6 certainly impeach Dr. Killingsworth with it. But it's  
7 my understanding that there is no data that indicates  
8 that he ever became a P1. And I can walk you  
9 through --

10 THE COURT: Now, wait, wait. You've given  
11 me one example --

12 MR. SMOLEN: I can give you more.

13 THE COURT: -- of a P5 in February of 2006.  
14 He's clearly not within the six months of hire in  
15 December of 2007. I mean, I can admit it for, quote,  
16 what it's worth but I'm not sure it's worth very much.

17 *(Discussion held off the record)*

18 THE COURT: All right. We'll admit this  
19 for whatever it may be worth, Plaintiff's Exhibit  
20 No. 52. Go ahead.

21 Q. *(BY MR. SMOLEN)* Dr. Killingsworth, in  
22 Plaintiff's Exhibit 52 in the data that you reviewed,  
23 you found that 33 of those individuals had -- the last  
24 P code rating was a P5 --

25 THE COURT: You are leading your witness.



1 Q. (BY MR. SMOLEN) Dr. Killingsworth, tell us what  
2 you --

3 THE COURT: Let this witness testify,  
4 please, Mr. Smolen.

5 MR. MORGAN: Your Honor, we've covered all  
6 of this before.

7 THE COURT: I think we have. Anything  
8 further, Mr. Smolen?

9 MR. SMOLEN: I just need to make sure we've  
10 admitted Exhibit 53.

11 THE COURT: Yes, sir.

12 Q. (BY MR. SMOLEN) Mr. Killingsworth, did you have  
13 something?

14 A. I am deeply embarrassed but I just noticed a  
15 typo.

16 Q. Okay.

17 A. And I think it's an important one so I think I  
18 better correct it.

19 THE COURT: Please.

20 Q. (BY MR. SMOLEN) Okay.

21 A. In Exhibit 56, which is also called table 7, that  
22 lists the people in the applicant flow log and not in  
23 the applicant flow log by sex; right? And the number  
24 should be reversed. I don't know how that happened.  
25 But the number of men in the applicant flow log is 83

1 and the number of men not in the applicant flow log is  
2 165.

3 Q. Okay.

4 A. And furthermore, for women, the number in the  
5 applicant flow log is nine. That's where Dr. Steward  
6 got his nine women from. And not in the applicant  
7 flow log there are 25.

8 Now, in expiation of this sin, I can point to  
9 chapter -- to paragraph 15 in Exhibit -- well, my  
10 supplemental declaration because that gets it right.

11 Q. Okay.

12 A. I don't know how it happened but I obviously just  
13 transposed the lines here.

14 Q. Okay.

15 A. But it does say 9 women were in the applicant  
16 flow log in that report and 83 men were in the  
17 applicant flow log. So the vast bulk of people were  
18 not in the applicant flow log but that's what I was  
19 saying. I humbly apologize for this mistake but  
20 fortunately it's not material.

21 Q. Okay. We essentially reversed the numbers and  
22 you came to the same conclusion that you did in your  
23 supplemental report; correct?

24 A. Well, just in the table, correct. The numbers in  
25 the table should be the reverse.

1 Q. Okay.

2 A. But the text -- as I say, the text gets it right.  
3 So this was just a mistake, not a computational error  
4 or something. I just typed in the wrong number on the  
5 wrong line.

6 MR. SMOLEN: Okay.

7 THE COURT: Anything further, Mr. Smolen?

8 MR. SMOLEN: Have we admitted 54?

9 THE COURT: No, we have not.

10 MR. SMOLEN: We'd move to admit 54.

11 THE COURT: Any objections?

12 MR. MORGAN: Your Honor, I think it's  
13 subject to all of the same objections, Your Honor,  
14 because the methodology this gentleman applied is  
15 obviously flawed in terms of coming up with  
16 performance ratings. We don't know when they were  
17 made or what the significance of them are. It's  
18 pretty worthless information and irrelevant.

19 THE COURT: Just so I understand, these are  
20 the most recent performance ratings for the  
21 individuals promoted from inside to outside sales that  
22 you found?

23 THE WITNESS: Yeah.

24 THE COURT: All right. Plaintiff's 54 is  
25 admitted.

1 MR. SMOLEN: Did we admit 55?

2 THE COURT: Yes.

3 MR. SMOLEN: 56?

4 THE COURT: No, I don't believe so. Did  
5 we, Mr. Overton?

6 DEPUTY COURT CLERK: I don't have it in --

7 THE COURT: No. Any objection to 56?

8 MR. MORGAN: No, Your Honor.

9 THE COURT: 56 is admitted.

10 MR. SMOLEN: I think that's all I have,  
11 Your Honor.

12 THE COURT: Very well. Cross-examination.

13 MR. MORGAN: Your Honor, may I ask for a  
14 break?

15 THE COURT: Yes. We'll take a short  
16 recess.

17 *(Short break)*

18 THE COURT: Cross-examination.

19 MR. MORGAN: Thank you, Your Honor.

20 **CROSS-EXAMINATION**

21 **BY MR. MORGAN:**

22 Q. Hello, Dr. Killingsworth. In your analysis, you  
23 basically looked at the number of males in  
24 customer -- in what you call the inside sales versus  
25 the number of females in inside sales; correct?

1 A. That was one of the analyses, yes.

2 Q. And then you looked at the number of promotions  
3 from promotions of males and promotions of females  
4 from what you call the inside sales for 2005 to  
5 2008?

6 A. That was one of the analyses, yes.

7 Q. And what other analyses did you do?

8 A. Well, I would mention specifically the Cox  
9 regression analysis.

10 Q. Okay. But basically, you operated on that set of  
11 data, the population --

12 A. Yes. And the SAP data, correct.

13 Q. Yeah. And for that, you didn't rely on any SMD  
14 data?

15 A. I did not, no.

16 Q. Okay. In your analysis at all?

17 A. That's right.

18 Q. And you didn't rely on applicant flow data?

19 A. That's right. Not for the analysis I did in my  
20 first report. I described some tabulations and  
21 analyses of the applicant flow data later but not  
22 first.

23 Q. I mean, your later analysis of applicant flow was  
24 showing why it shouldn't be used in this process;  
25 right?

1 A. why I wouldn't rely on it, yes.

2 Q. why you would not rely on it?

3 A. Correct.

4 Q. Okay. So you didn't rely on applicant flow data  
5 and you didn't rely on the SMD sheets to do your  
6 analysis?

7 A. To do any of the analyses, that's correct, yes.

8 Q. Okay. And all of your analyses, except for  
9 perhaps one where you took out the pro shops, I mean,  
10 everything was included, customer service department  
11 here in Tulsa, it included Hilti centers across the  
12 nation, and pro shops with the exception of one study  
13 that you did, correct, where you took out the pro  
14 shops?

15 A. Yes. The Cox regressions, which we can go into  
16 further if you'd like, identified separately each of  
17 the different areas at Hilti.

18 Q. Okay. And in terms of your charts that have been  
19 admitted here, none of those charts break out the  
20 three separate types of what you call inside sales,  
21 the base market?

22 A. I think that's right, except in kind of a  
23 backwards way, because some of the analyses don't  
24 include the pro shops, that's right.

25 Q. All right. So all of the analyses include

1 customer service and Hilti centers?

2 A. I think that's right, yes.

3 Q. why did you take the pro shops out?

4 A. Basically because counsel asked me to.

5 Q. Okay. Because it yielded a better statistic for  
6 you?

7 A. No. In fact, I wasn't aware of what was going to  
8 happen until I actually took it out. You never  
9 know.

10 Q. Did you actually do the statistics or did you  
11 check his?

12 A. What? No, I did my own.

13 Q. All of these documents you drafted yourself?

14 A. Yes.

15 Q. You drafted --

16 A. Right down to the mistake that I made in that  
17 last table we talked about.

18 Q. Okay. And in terms of the documents you looked  
19 at, you never saw the deposition of Christy Graybill?

20 A. well, actually I did.

21 Q. well --

22 A. Not to begin with, but it was quoted at some  
23 length in --

24 Q. Graybill, Christy Graybill?

25 A. Yes, yes.

1 Q. And did you put that in your report that you  
2 studied that?

3 A. No, no.

4 Q. And why not?

5 A. Not in first report, no. I quoted --

6 Q. Not in the first report. The first report you  
7 only looked at two documents, you looked at account  
8 managers, 2005 to 2008, and you looked at all data?

9 A. I agree with you.

10 Q. Right. And then your second report, did you look  
11 at the deposition of Christy Graybill when you did  
12 your second report?

13 A. I think I quoted from it.

14 Q. I think you did not.

15 A. Oh, well, then I may be confusing her with  
16 another Christy.

17 Q. Christy Ouverson?

18 A. Oh, okay. My mistake.

19 Q. Did you see Christy Graybill's --

20 A. No. But I -- well, all right. I'm getting the  
21 two Christys mixed up and I apologize. But one of  
22 the --

23 Q. You put a complete list of the documents you  
24 relied on in completing your reports in your reports,  
25 did you not?



1 A. Either that or else I identified what I was  
2 citing when I cited it, which is standard practice for  
3 me.

4 Q. Okay. Did you look at the affidavit of Shannon  
5 DeGiacomo in doing either of your reports?

6 A. No, I don't think I did.

7 Q. And do you recall if you looked at Plaintiff's  
8 Exhibit 20, which was the SMD red thread process  
9 manual?

10 A. I had it and I think I looked at it. I certainly  
11 looked at it just last week to refresh my memory.

12 Q. Okay. Well, let's look at what you said. You  
13 agree that the first two report you only put two  
14 documents in there as having been relied upon?

15 A. That's correct.

16 Q. The account managers and the all data?

17 A. All data -- oh, oh, the SAP data. I'm sorry.  
18 Yes.

19 Q. Okay. Well, let's look at what you listed in  
20 your second report as having relied upon, okay? Do  
21 you recognize this as your supplemental report?

22 A. Yes.

23 Q. Preparation of my supplemental decision, attached  
24 is a list of documents I considered.

25 A. Right.

1 Q. And here they are. Report of Steward, and then I  
2 don't see any down here -- you got the depositions  
3 transcript of Steward and the deposition transcript of  
4 Ouverson.

5 A. Right.

6 Q. You don't list either Shannon DeGiacomo, you  
7 don't list Christy Graybill, you don't list Jennifer  
8 Patuto, and you don't list Natalie Sanders. You don't  
9 list a number of depositions that were taken with  
10 regard to the documents that are involved in this  
11 case. why is that?

12 A. well, I was analyzing the data themselves.

13 Q. Yeah. But you also said you even quoted from  
14 Christy Ouverson.

15 A. well, I think I did.

16 Q. Yeah.

17 A. I mean, we can go find it. If I'm confusing the  
18 two Christys, I apologize, but we can go find the  
19 quote.

20 Q. Okay. Let's put it up here. But your  
21 supplemental affidavit was basically put in to rebut  
22 Dr. Steward; right?

23 A. That's right.

24 Q. Okay. And here we go. We got Mrs. Ouverson  
25 testified. okay. So that establishes who you were

1 relying on, right, and that's who you listed?

2 A. well, who I was quoting, right.

3 Q. Okay. Now, it's interesting you did not quote  
4 Ms. Ouverson on this point: "what would the protocol  
5 have been" -- this is page 42, lines 9 through 13 --  
6 "what would the protocol have been if a manager was in  
7 SMD and they were frustrated with it? what would they  
8 do? what was their alternative to track that  
9 information?"

10 "ANSWER: Their own documents outside the  
11 system."

12 Do you recall that?

13 A. I don't recall seeing that but that sounds  
14 familiar, okay?

15 Q. And did you ask what documents did the people  
16 rely upon outside the system?

17 A. I asked what documents were available.

18 Q. Okay. You didn't ask what the -- what the  
19 managers actually rely upon?

20 A. I asked what documents were available to me. I  
21 was going to be doing analyses so I wanted to know  
22 what would be available to me.

23 Q. Okay. So basically in all of your analyses, you  
24 did not actually analyze how the -- what has been  
25 called the global develop and coach process actually

1 impacted females in the workforce?

2 A. well, there isn't a study about the GCG -- what's  
3 the acronym? I'm sorry.

4 Q. GDCP.

5 A. Okay. I haven't done a study of that particular  
6 program or of any other particular program, that's  
7 correct.

8 Q. So you don't have any concept of how that program  
9 may have led to the gross population statistics that  
10 you do report upon?

11 A. well, as I said, I haven't studied that  
12 particular program or red thread or the various  
13 different performance evaluations as such or in  
14 particular how they came about to be, who did them, or  
15 things like that. what I studied were the promotion  
16 outcomes that actually happened to actual people.

17 Q. So you didn't study SMD?

18 A. well, no, I'm not sure what you mean by that. I  
19 didn't study SM --

20 Q. well, you didn't do any statistical analyses of  
21 that?

22 A. well, that's not entirely correct. Because as  
23 you saw, I looked at these data and found that they  
24 were missing a lot of the time.

25 Q. Okay.

1 A. So, I mean, that's clearly not a fancy regression  
2 analysis.

3 Q. Right.

4 A. But given the prevalence of missing data, I  
5 thought it would be not very useful to do a regression  
6 analysis.

7 Q. Now, where did you come up with the concept that  
8 the data was missing? Just because the cells were  
9 blank?

10 A. That's right. I didn't see it there. Certainly  
11 missing in the data sets that I received.

12 Q. Okay. So did you ask anyone, why is -- why are  
13 these cells not filled, why is there not data for  
14 everyone in the customer service department? Did you  
15 ask that question?

16 A. No. I don't think I asked that specific  
17 question, that's correct.

18 Q. And you certainly don't know the answer to that  
19 specific question today, do you?

20 A. No. I haven't studied that.

21 Q. Okay. What is your understanding of what SAP is,  
22 Doctor?

23 A. It's a large database management system often  
24 used in personnel-type applications.

25 Q. And other applications as well?

1 A. Oh, sure.

2 Q. It's basically a big Oracle type -- is  
3 that -- would you relate that to Oracle or --

4 A. I'm a lot less familiar with Oracle than I am  
5 with SAP so I wouldn't want to comment. But SAP is a  
6 personnel-type database with other add-ons too, if the  
7 user needs them.

8 *(Discussion held off the record)*

9 THE COURT: Let me interject here.  
10 Counsel, I have fortunately a University of Chicago  
11 master's in economics here clerking for me. Neither  
12 one of you gave me an exhibit book for him. We're in  
13 the middle of the second day. It would be very  
14 helpful to have an exhibit book for the law clerk  
15 here.

16 MR. MORGAN: Oh, certainly.

17 *(Discussion held off the record)*

18 MR. SMOLEN: Your Honor, I've got one.  
19 We've scratched some notes on some of the pages. I  
20 can give him a clean copy when we're done today but he  
21 can certainly use this one for now.

22 THE COURT: Thank you. Mr. Morgan.

23 MR. MORGAN: I apologize, Your Honor. I  
24 should have thought of that.

25 THE COURT: Go ahead, sir.

1 Q. (BY MR. MORGAN) Doctor, you've identified  
2 Plaintiff's Exhibit 20 as something you looked at; is  
3 that correct?

4 A. Correct.

5 Q. And you understand that the outcome of this  
6 process is to create a pool of persons, a critical  
7 point? Is that your understanding from this, is that  
8 it created a pool of potential candidates?

9 A. Well, that's the intention set out in this  
10 document, yes. That's what the document says.

11 Q. You don't know one way or the other if that was  
12 the case or not, do you?

13 A. Well, I didn't see a database labeled "pool of  
14 potential candidates," no.

15 Q. So you have to have a database to have a  
16 potential pool?

17 A. Well, what would -- what would one otherwise mean  
18 by the term "pool"? I'm not sure. For me, the term  
19 "pool" would mean a list of people and characteristics  
20 of those people. It might mean something different to  
21 Hilti but --

22 Q. So did you look --

23 A. -- I can't -- I have to use my own sense of what  
24 the term "pool" means here.

25 Q. Okay. So there could be very other -- many other

1 different terminologies or pools? I mean, if you used  
2 an Excel spreadsheet showing the potential and the SMD  
3 rating and the mobility rating, that could be a pool,  
4 could it not?

5 A. Oh, that's exactly the kind of thing I was  
6 talking about.

7 Q. Yeah.

8 A. A database. It doesn't have to be an Excel  
9 spreadsheet or something else. It could be an SAP  
10 database, for example.

11 Q. Did you compare Hilti's numbers to other  
12 employers in the construction service business,  
13 construction tool business?

14 A. No, I did not.

15 MR. SMOLEN: I'm just going to object  
16 because that's outside the scope of our direct. We  
17 never inquired as to any studies he would have  
18 conducted with other construction companies.

19 THE COURT: Sustained. I don't believe  
20 that's relevant for a disparate impact analysis.

21 MR. MORGAN: Thank you.

22 Q. (BY MR. MORGAN) Did you attempt to do any study  
23 of correlation between the promotions that actually  
24 occurred to the employee's mobility -- designated  
25 mobility areas?



1 A. You mean the M ratings?

2 Q. M rating, yes.

3 A. No, I didn't do a study like that.

4 Q. Didn't do that?

5 A. No. I would have had to have discarded most of  
6 the data to do such a study. But I didn't do it.

7 Q. You could have looked and said, if an employee is  
8 M3 to Tulsa and they got a job in Tulsa, then you  
9 could have done that type of study, could you not?

10 A. Well, I would have had to say, among the very  
11 small number of people who have an M rating, I get the  
12 following correlation. I could have done that, I  
13 guess, yes. Having seen how widespread the prevalence  
14 of missing data was, I would have felt that that  
15 wouldn't be a particularly meaningful exercise.

16 Q. So you didn't even attempt to do that, did you?

17 A. I did not do that, that's correct.

18 Q. And, again, you didn't attempt to relate the time  
19 of the actual promotion to the person's P rating on  
20 the SMD sheets, did you?

21 A. I'd answer just the same way with the respect to  
22 the P rating that I did for the M rating.

23 Q. So you didn't do it?

24 A. I didn't do it, that's right.

25 Q. You didn't do that.

1 A. And for the same reason.

2 Q. And that reason being that you assumed that all  
3 those blanks were supposed to be filled?

4 A. No. I assumed that the blanks meant that there  
5 wasn't anything there. And I think that's  
6 unambiguously true, whether or not they were supposed  
7 to be filled.

8 Q. You made no inquiry as to why they were blank?

9 A. I asked what data were available and I was told  
10 this is it.

11 Q. Just to be clear, your testimony is not designed  
12 to make a causal link between the GDCP process and  
13 promotions at Hilti?

14 A. That's correct. Statistics can't tell you  
15 anything about causality per se.

16 Q. All you studied was this is what happened, this  
17 is history, and you applied statistical methods to the  
18 number of promotions for males and for females out of  
19 those three categories that we discussed, three job  
20 areas?

21 A. Or four, I think, in the case of some of the  
22 analyses.

23 Q. And --

24 A. There are some analyses that didn't take out --  
25 what is it? -- the Hilti -- I'm blocking.

1 Q. Pro shop?

2 A. Yeah. Although, as I said, I did take account  
3 explicitly of what areas people were in. So if you  
4 like, I allowed the impact to differ depending on  
5 which area people were in. I gave the example of  
6 customer service, for instance, where the eagerness or  
7 lack of eagerness for promotion might be greater or  
8 less than in other areas, which is why I took account  
9 of it.

10 Q. Why do you say might be greater or less?

11 A. Simply because it's not necessarily the case that  
12 everybody is exactly the same in terms of their  
13 eagerness or lack of eagerness to do anything.

14 Q. Right. So you concede that desire is a factor  
15 that should be analyzed?

16 A. I concede, or I happily agree, that one should do  
17 everything one can to take account of as many factors  
18 as one can that are in the data, and that's what I  
19 believe I did.

20 MR. MORGAN: I don't think I have anything  
21 further, Your Honor.

22 THE COURT: I have a few questions before  
23 we get into redirect and recross.

24 Did you run any other regressions that are not  
25 included in your report?

1 THE WITNESS: No. The only ones I ran that  
2 didn't -- that I didn't include -- I think there's  
3 one -- I think I gave an example. Nobody who was  
4 hired in 2008 was actually promoted in 2008 or  
5 something like that. There's a footnote to that fact.  
6 And I first ran it not realizing that, and then when I  
7 discovered that that had happened, you can put people  
8 like that in because they're probability of promotion  
9 is zero so I tossed them out.

10 So subject to getting rid of obvious errors, no,  
11 I didn't run some parallel set of results and get rid  
12 of them.

13 THE COURT: All right. So that means that  
14 you didn't run any regressions focused only on  
15 customer service representatives; correct?

16 THE WITNESS: That's correct.

17 THE COURT: Or on pro shop consultants  
18 only?

19 THE WITNESS: That's right.

20 THE COURT: Or on Hilti center  
21 representatives only?

22 THE WITNESS: That's right. The way I did  
23 it was a little different because I had a variable for  
24 each kind of employee in each of those kinds of groups  
25 but they were all in one regression.

1 THE COURT: Was the Hilti area variable  
2 statistically significant?

3 THE WITNESS: I'm embarrassed to say I  
4 can't recall offhand. Some of them I think were.  
5 There were a set of them. I would be a little  
6 surprised if they weren't jointly statistically  
7 significant, but I honestly can't say because it's  
8 been awhile since I did that.

9 THE COURT: All right. If you looked at  
10 Exhibits 44 and 45, would that help you?

11 THE WITNESS: No, I don't think so. Those  
12 are the ones that did the Cox regressions, if I'm not  
13 mistaken.

14 THE COURT: Correct.

15 THE WITNESS: Yeah. Unfortunately, no  
16 because that only tells you about the sex coefficient.  
17 But what you're asking is about the Hilti area  
18 coefficients, and that's not reported there because  
19 I'm just summarizing the results.

20 THE COURT: Your report doesn't contain the  
21 sex breakdown for each of the three components of the  
22 base market during the relevant time frame, customer  
23 service representatives, pro shop consultants, and  
24 Hilti center representatives; correct?

25 THE WITNESS: That's right.

1 THE COURT: Mr. Smolen, go ahead.

2 MR. SMOLEN: May I have just one minute,  
3 Your Honor?

4 THE COURT: Yes, sir.

5 *(Discussion held off the record)*

6 REDIRECT EXAMINATION

7 BY MR. SMOLEN:

8 Q. Dr. Killingsworth, just a couple real quick  
9 follow-up questions.

10 I believe you testified that you were retained  
11 to do a rebuttal expert report in response to  
12 Dr. Steward?

13 A. That's right.

14 Q. Okay. And did you, in fact, look at the  
15 documents that Dr. Steward looked at when he -- for  
16 what he used to come up with his opinion?

17 A. Yes, I did.

18 Q. Okay.

19 MR. SMOLEN: Your Honor, may I approach?

20 THE COURT: Yes, sir.

21 Q. *(BY MR. SMOLEN)* And looking at Dr. Steward's  
22 report, do you see wherein he listed a document in  
23 which he relied on to come to his conclusions titled  
24 "Internal promotions to AM process Tammy REV"?

25 A. Tammy REV?

1 Q. Yes. It's --

2 A. Okay. I see that now.

3 Q. And if you'd look at the document that I just  
4 handed you, what is the title of that document?

5 A. "Internal promotion to AM process."

6 Q. Okay. And in paragraph 1, it indicates that  
7 recruiters work with division managers or regional  
8 managers on filling vacancies that may occur in the  
9 account manager position. This doesn't happen on  
10 every case. I would say that the majority of the time  
11 the BM and UM are communication driven with each  
12 other. Base market is defined as inside sales,  
13 customer service representatives, now called inside  
14 sales specialists; pro shop consultants, PSC;  
15 employees in Hilti -- or excuse me -- home Depot  
16 stores; and Hilti center representatives, HCR; both  
17 pro shop and HC employees are also called AM I.  
18 Correct?

19 A. Right.

20 Q. Okay. And did you take that to define the feeder  
21 group for inside sales to account manager position  
22 outside sales?

23 MR. MORGAN: Objection; leading.

24 THE COURT: Sustained.

25 Q. (BY MR. SMOLEN) what did that indicate to you,

1 Dr. Killingsworth?

2 A. Well, that indicated to me that the definition  
3 I'd been using for inside sales was the same that's  
4 set out here, at least in general terms. Now, I  
5 classified every single job title -- I think I said  
6 this this morning -- every single job title that you  
7 find in SAP as either inside sales, outside sales, or  
8 neither, clericals, let's say.

9 Q. And your --

10 A. But this jives perfectly with my understanding of  
11 what I was doing.

12 Q. That's what I'm getting at. And that essentially  
13 the identification of this feeder group by this  
14 document that was provided to Dr. Steward by the  
15 defendant was also consistent when you actually looked  
16 at the raw data; is that correct?

17 A. That's right.

18 MR. MORGAN: Objection, Your Honor;  
19 leading.

20 THE COURT: Sustained.

21 Q. (BY MR. SMOLEN) Was this consistent with what  
22 you saw in the raw data?

23 MR. MORGAN: Objection, Your Honor; same,  
24 leading.

25 MR. SMOLEN: It's not leading.



1 THE COURT: Overruled.

2 A. Yes, it was consistent because I looked at all  
3 the promotions that -- and every single time when  
4 there's an inside sales person that has one of these  
5 titles.

6 Q. (BY MR. SMOLEN) And did you find in reviewing  
7 that that, in fact, these positions were the feeder  
8 positions for inside sales promotions to outside sales  
9 promotions for internal candidates?

10 A. Yes. There, I think I ran across maybe a very  
11 small number of people in other titles who became  
12 outside sales but it was small. These are the  
13 dominant group of feeder titles. People in these  
14 titles are the feeders.

15 Q. And you have -- in your practice and in your  
16 education, you have routinely developed feeder pools  
17 on your own without any company -- have you developed  
18 feeder pools on your own?

19 A. I have.

20 MR. MORGAN: Your Honor, objection. This  
21 is beyond the scope of cross.

22 THE COURT: Well, I think it's in response  
23 to some of my questions frankly.

24 MR. SMOLEN: It is.

25 THE COURT: And my questions with regard to

1 regression analyses done on individual component parts  
2 were just to determine whether or not, A, those  
3 regressions were done but rejected -- I found out they  
4 were not -- and B, whether or not if any such  
5 regressions had been done, whether or not it  
6 altered -- or there was some statistically significant  
7 difference having analyzed each one of the component  
8 parts.

9 MR. SMOLEN: And you're correct, Your  
10 Honor, this was just in response to the questions that  
11 you asked. So if you're satisfied with that, I don't  
12 need to ask anymore questions.

13 THE COURT: Thank you. Mr. Morgan.

14 MR. MORGAN: Nothing further, Your Honor.

15 THE COURT: Very well. May this witness be  
16 excused?

17 MR. SMOLEN: Yes.

18 THE COURT: Thank you, sir.

19 *(The testimony of Dr. Killingsworth was concluded)*  
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21  
22  
23  
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25

C E R T I F I C A T E

I, Brian P. Neil, a Certified Court Reporter for the Northern District of Oklahoma, do hereby certify that the foregoing is a true and accurate transcription of my stenographic notes and is a true record of the proceedings held in above-captioned case.

I further certify that I am not employed by or related to any party to this action by blood or marriage and that I am in no way interested in the outcome of this matter.

In witness whereof, I have hereunto set my hand this 31st day of July 2013.

s/ Brian P. Neil

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Brian P. Neil, RMR-CRR  
United States Court Reporter